

# VACCIA – Action 5

Delivery 6

Adaptation and policy targets: The impact of climatic changes on the protection and hunting periods of birds  
Sopeutuminen ja poliittiset tavoitteet: Ilmastonmuutoksen vaikutukset lintujen suojeluun ja metsästysaikoihin  
(Presentation)



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# The impact of climatic changes on the protection and hunting periods of birds - results from the Hanko Bird Observatory



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Hangon lintuasema



# Introduction

- Observatory established in 1979
- Owned by the Ornithological Society of Helsinki area (Tringa)
- Situated in the nature conservation area of Uddskatan and Important Bird Area (IBA; SYKE & BirdLife Finland)
- Easily attainable
- <http://www.tringa.fi/fi/hangon-lintuasema/hangon-lintuasema/>

# Activities

1. Counting of visual migration  
(standardized morning counts – 4 hours)



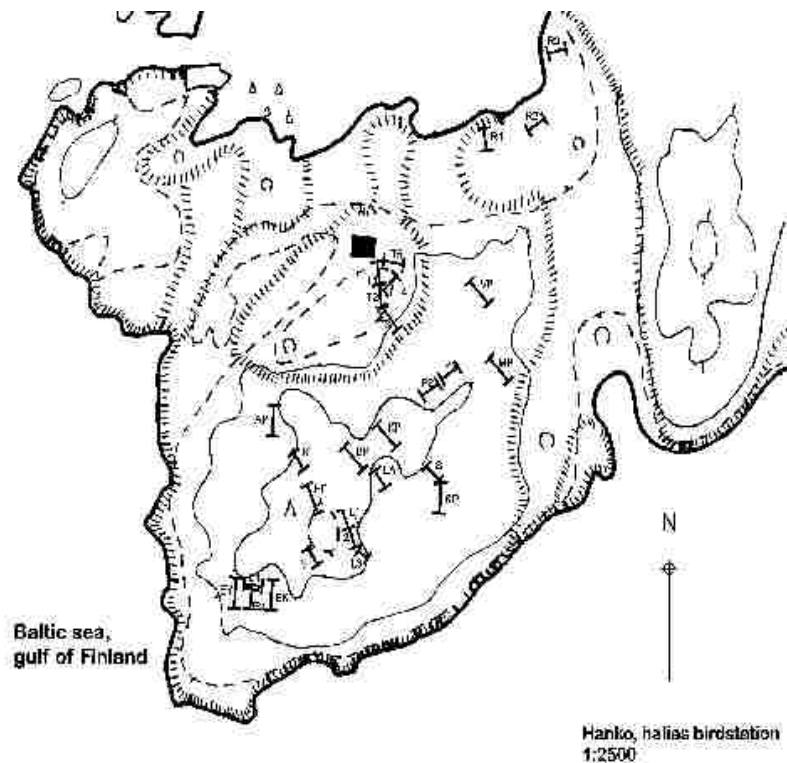
# Activities

2. Counts of staging birds (e.g. waterfowls)

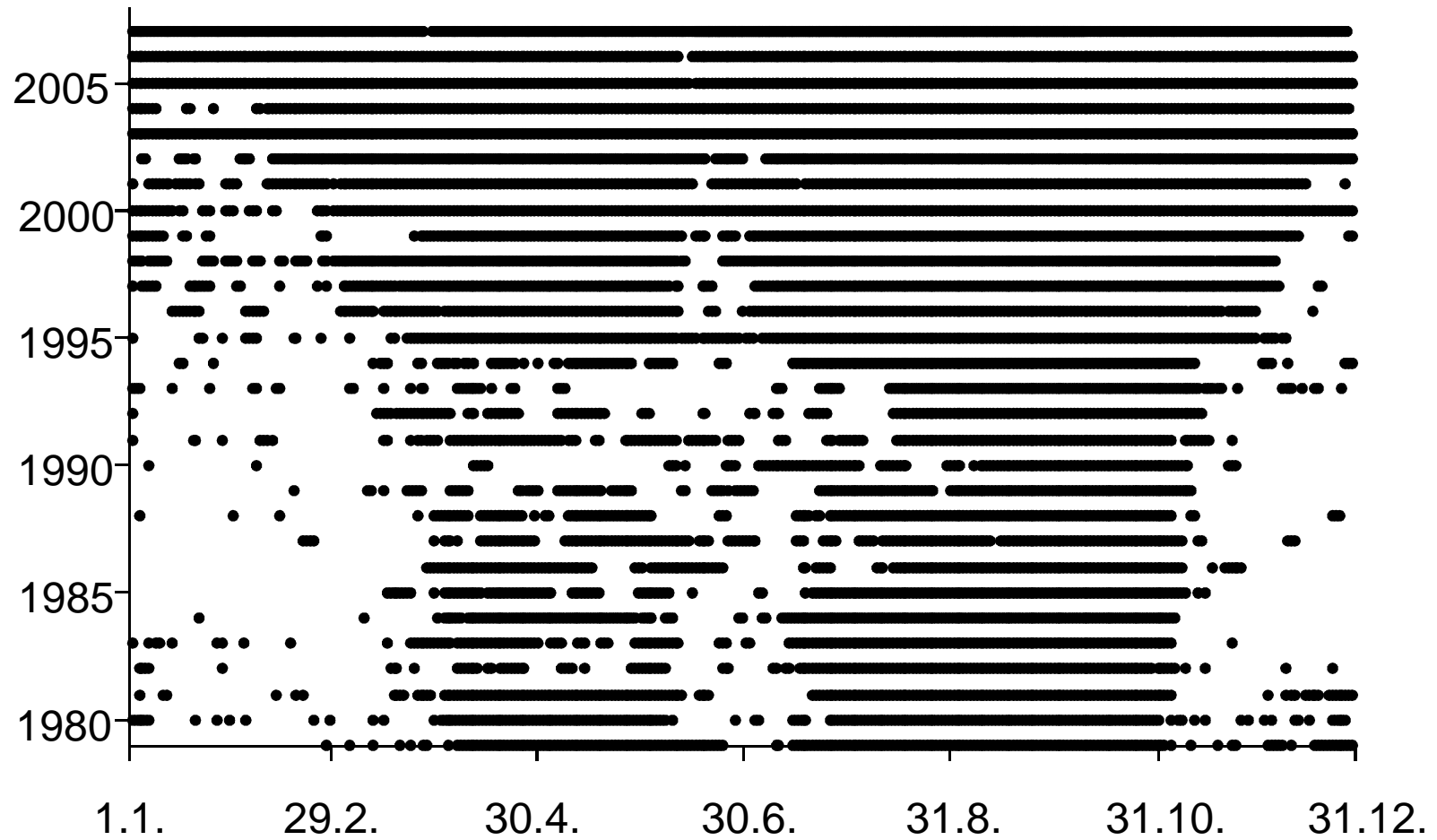


# Activities

3. Ringing (mainly mist-netting in standardized sites, but also wader traps)



# Observation activity



# Statistics

Digital databases include:

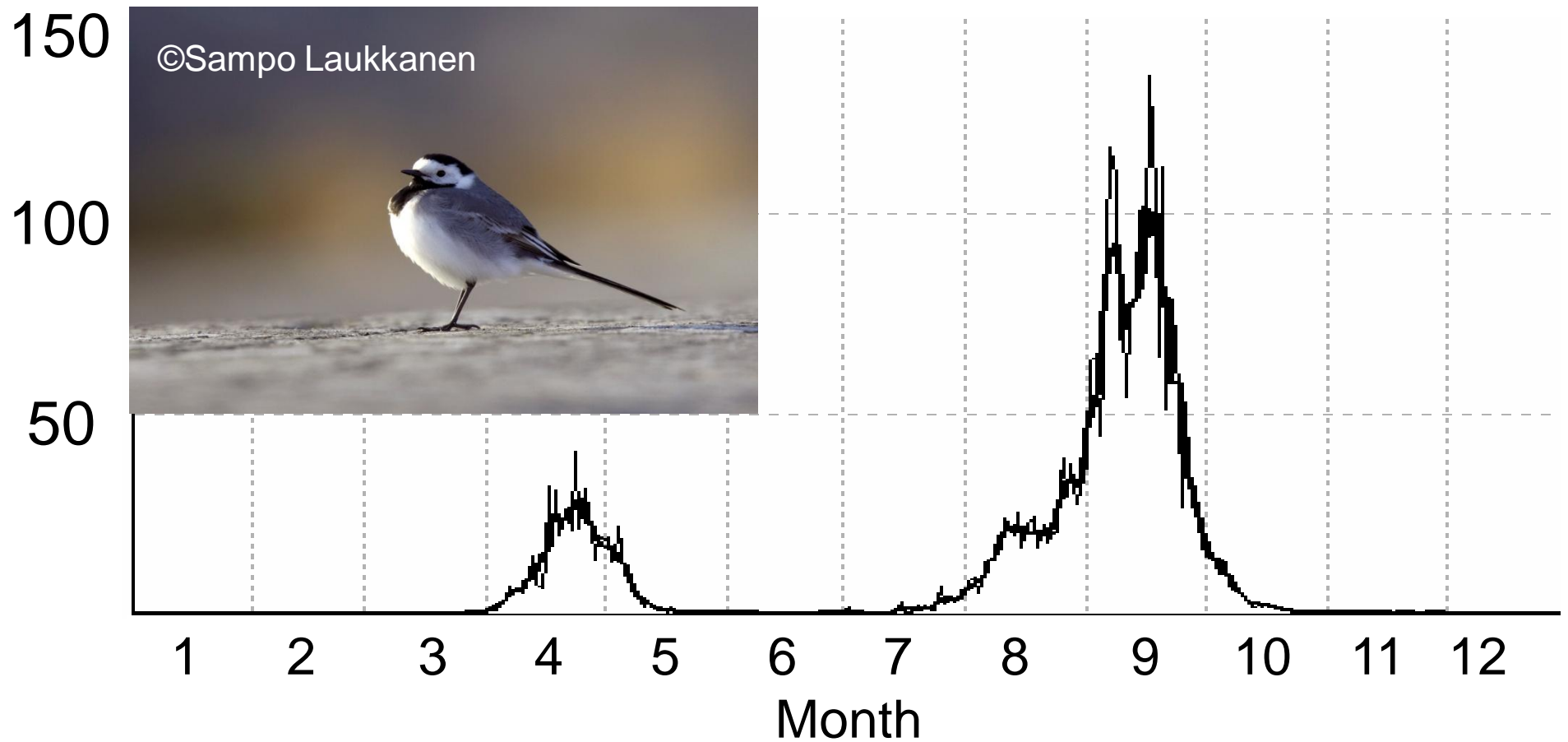
- 30 million observed individuals/300 species
- > 270 000 ringed individuals/190 species
- ca.40 active observers/year
- One head observer: Aatu Vattulainen
- Over 80 publications (pdfs on website)





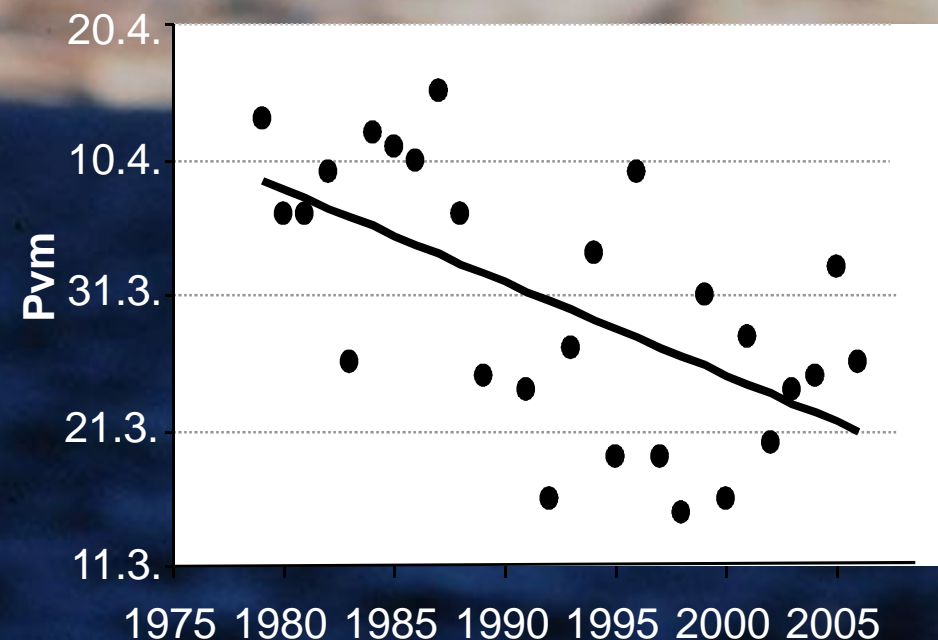
# Monitoring migration phenology and occurrence of species

## White Wagtail example



# Spring migration and climate change

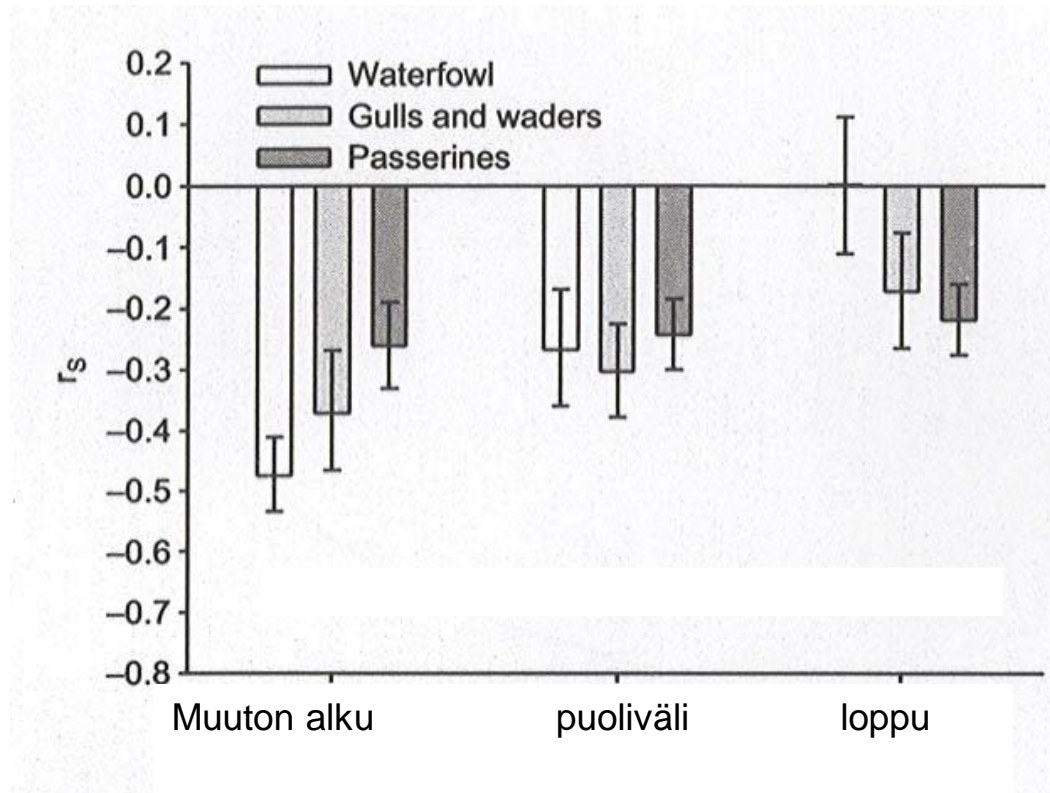
- Warming winter and spring advances bird migration (1)

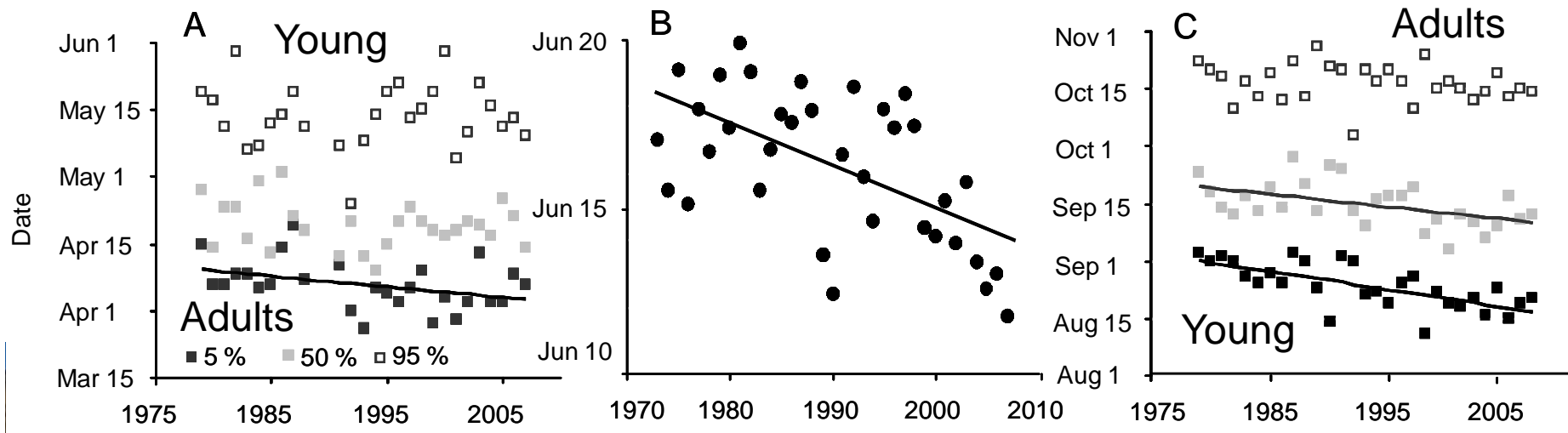


(1) 49. Vähätalo et al. (2004); 63. Rainio et al. (2006) *Journal of Avian Biology*.  
56. Lehikoinen et al. (2006) *Global Change Biology*; 60. Jonzén et al. (2006) *Science*; 70. Rainio (2008) PhD; 76. Lehikoinen (2009) PhD.

# Climate and spring migration

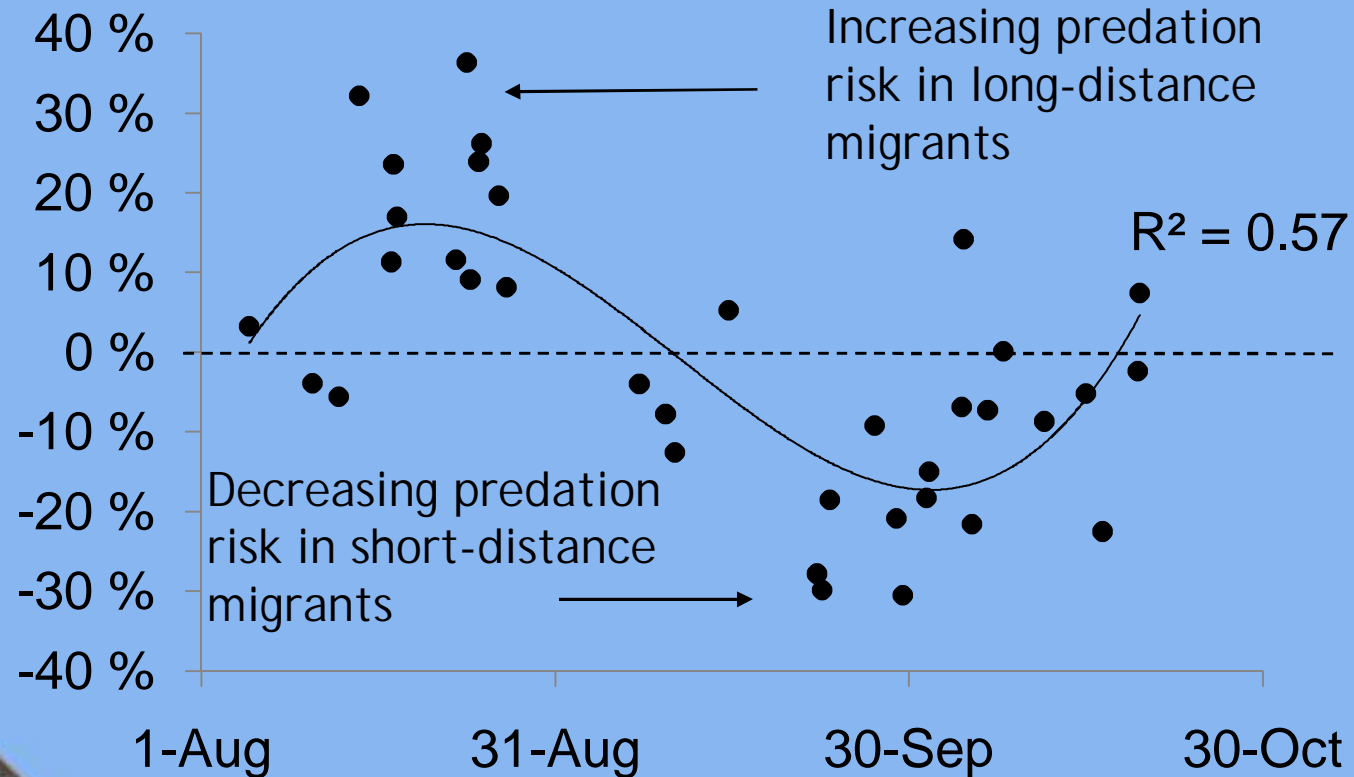
- Species specific responses





# Effects in food chain

## - change in predation risk



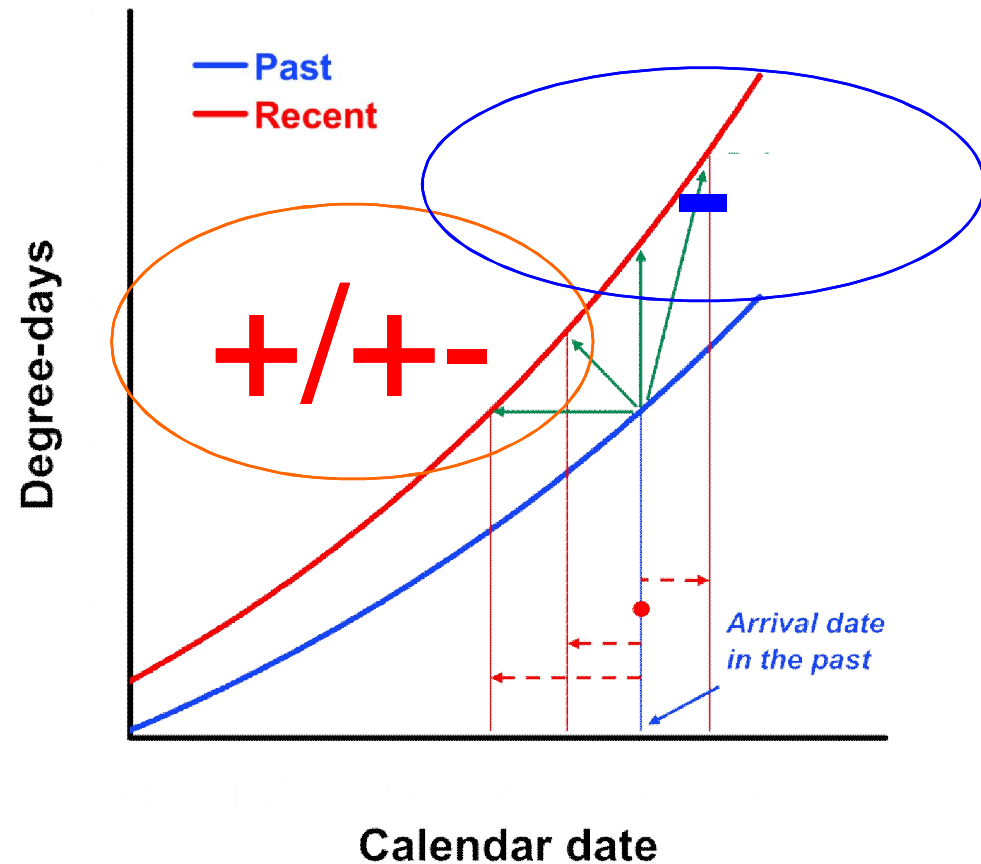
Median migration of 36 passerines



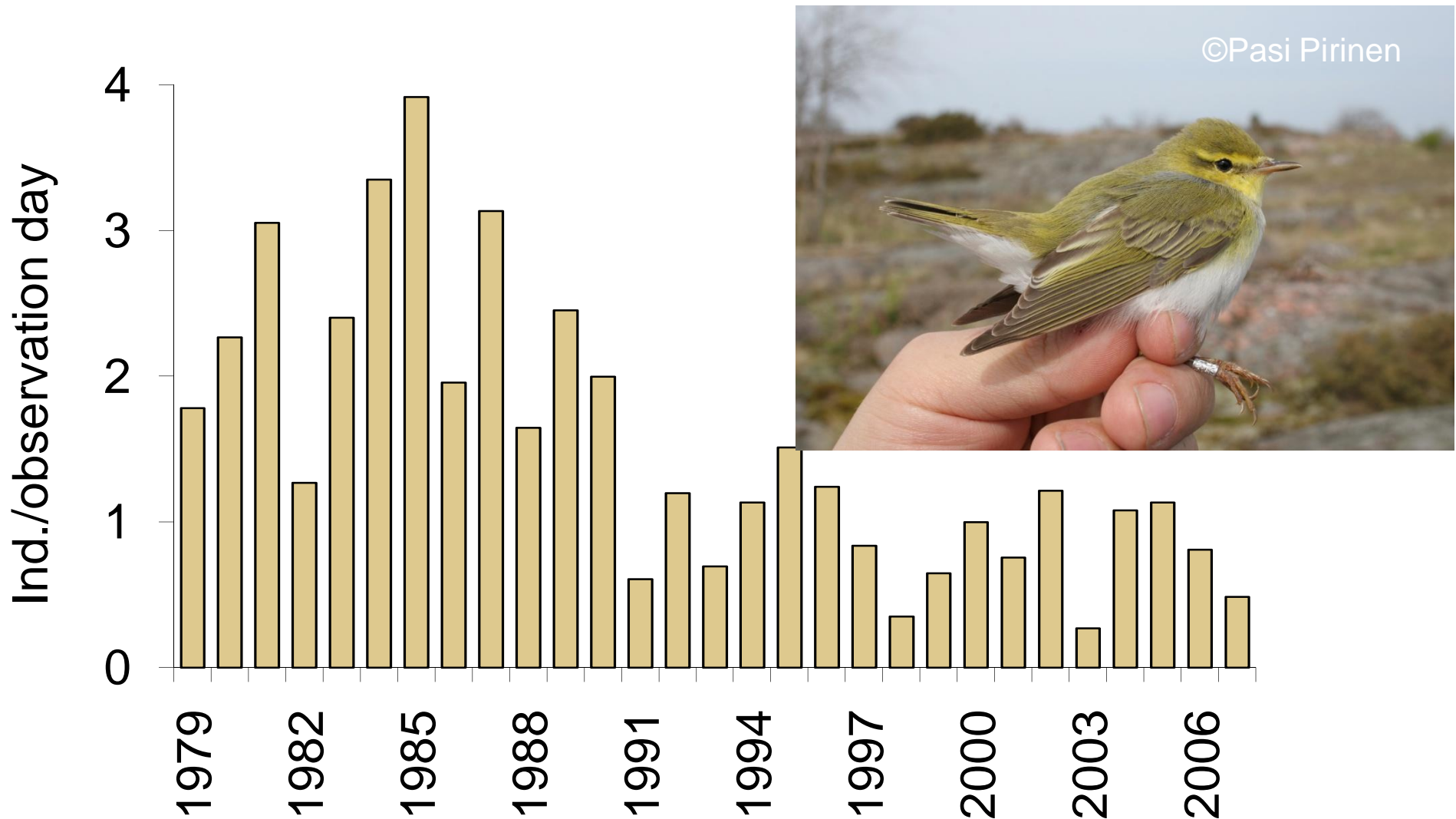
Lehikoinen, unpublished

# Timing of migration matters

- Species that have not advanced their migration in relation to climate change have declining populations

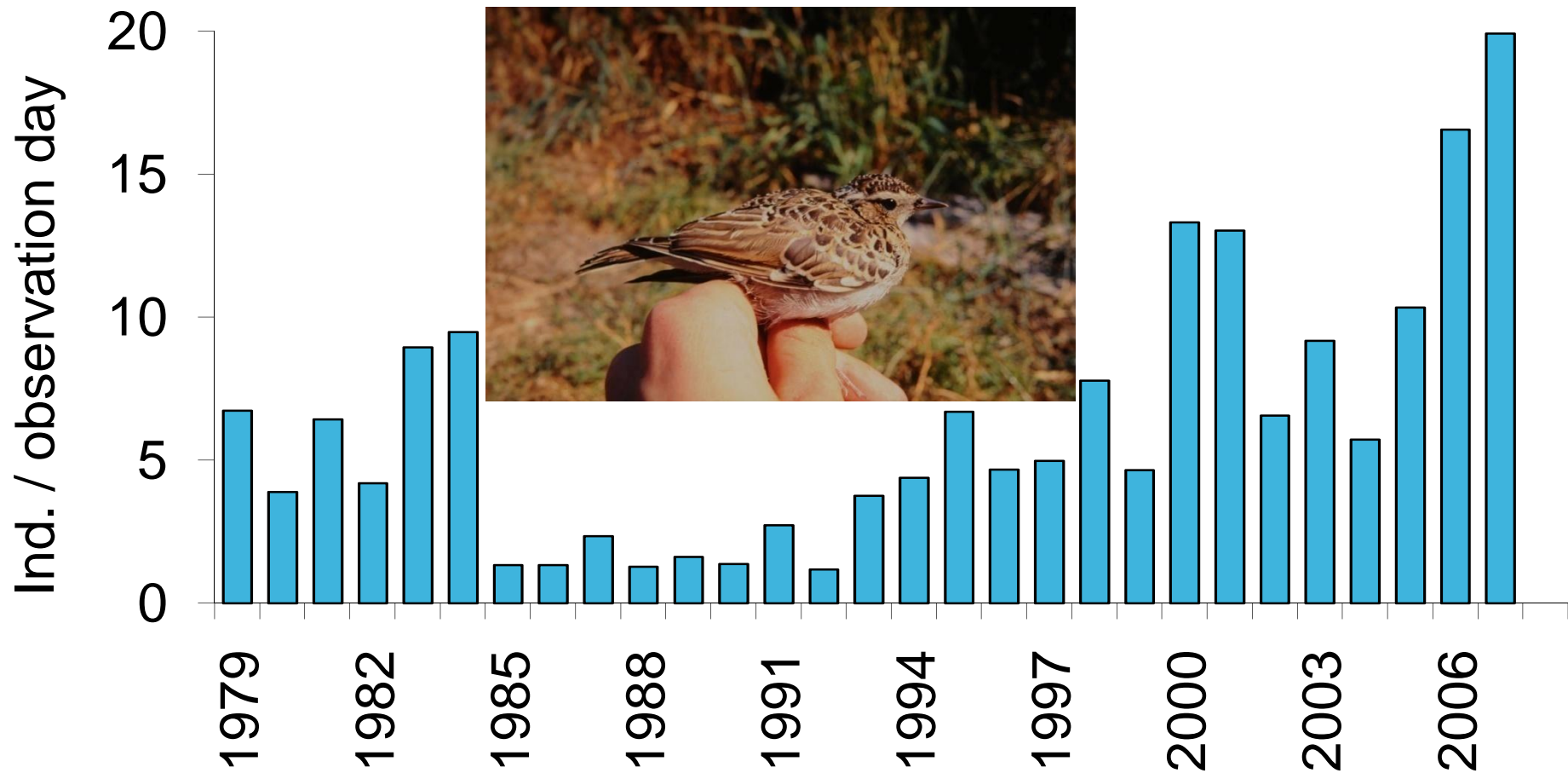


# Many long-distance migrants have declined, e.g. wood warbler



71. Lehikoinen et al. (2008) *Tringa*.

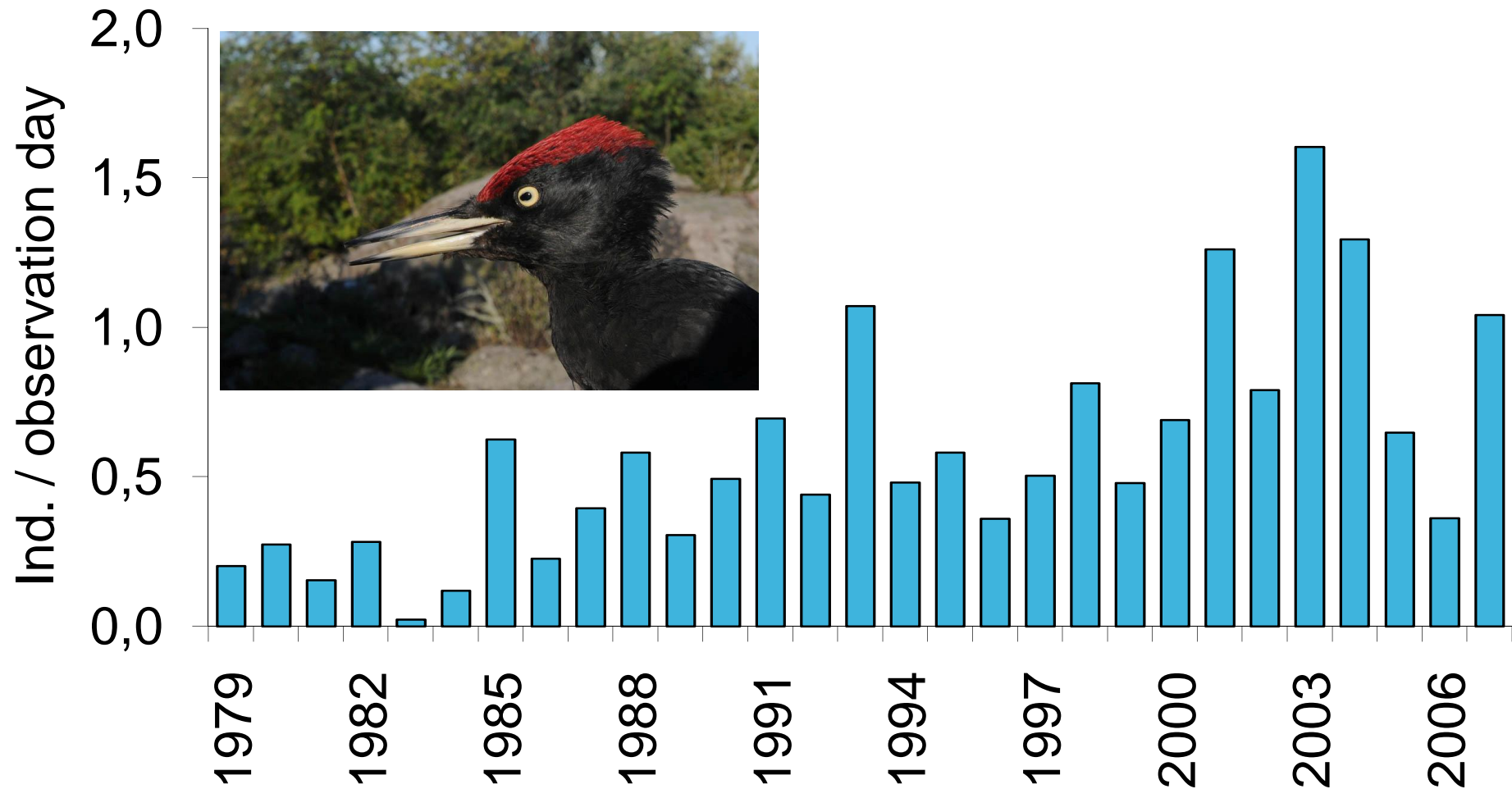
Many short-distance migrants have increase their population size, e.g. wood lark



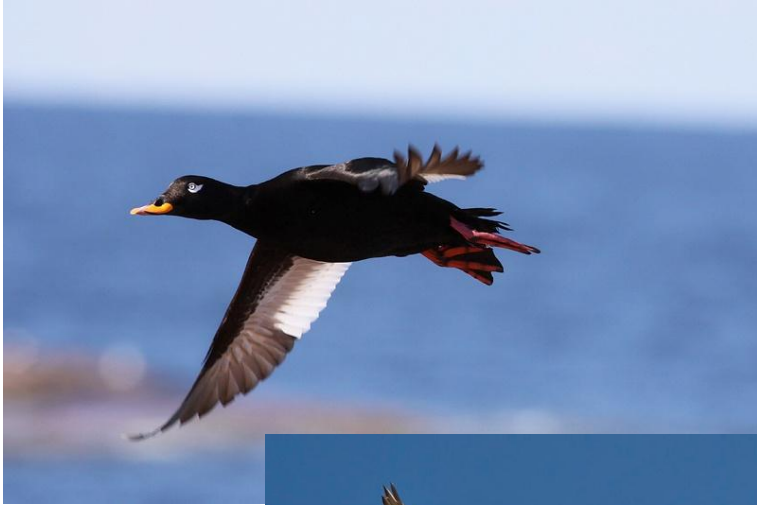
71. Lehikoinen et al. (2008) *Tringa*.



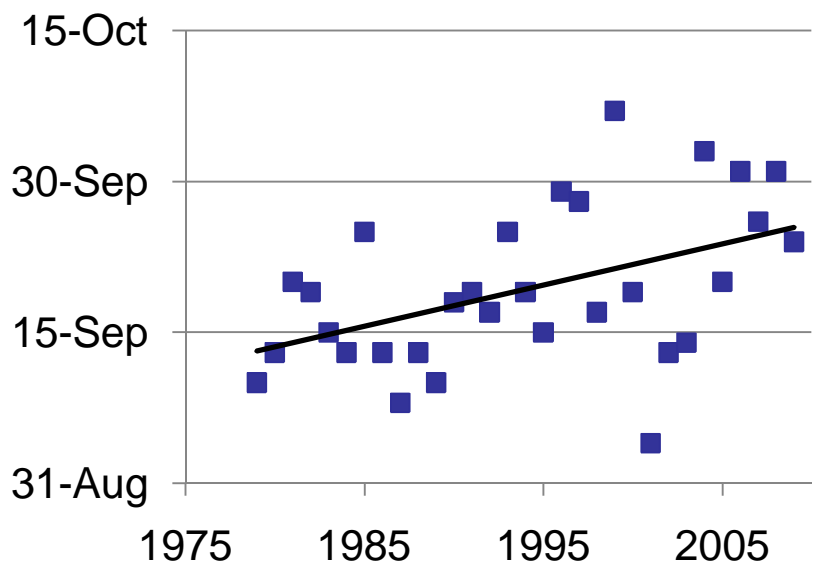
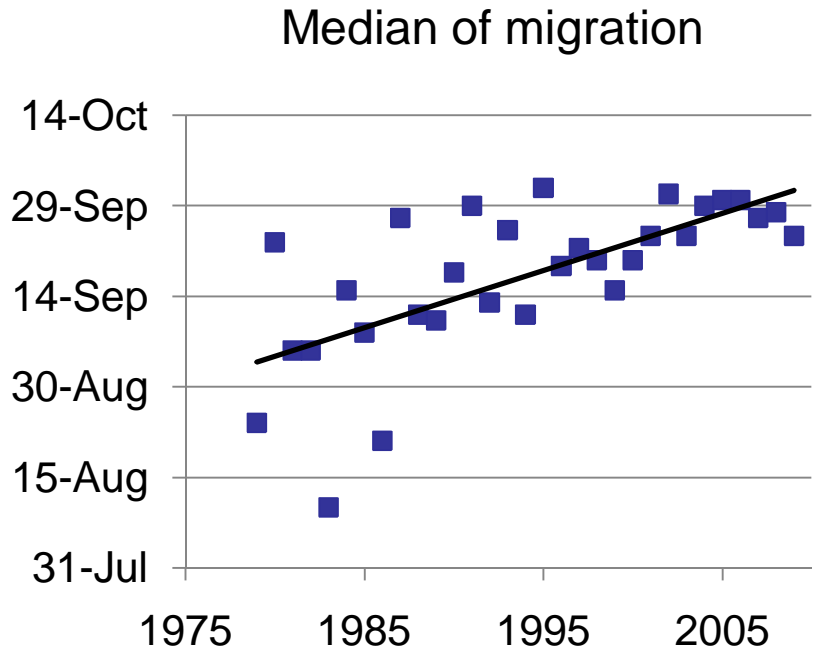
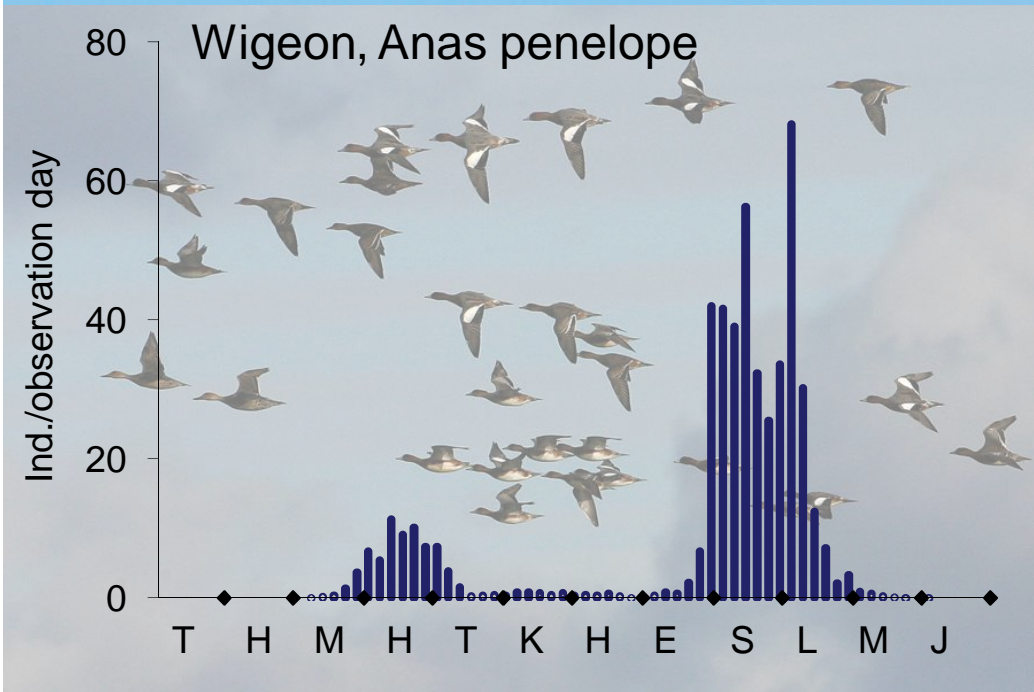
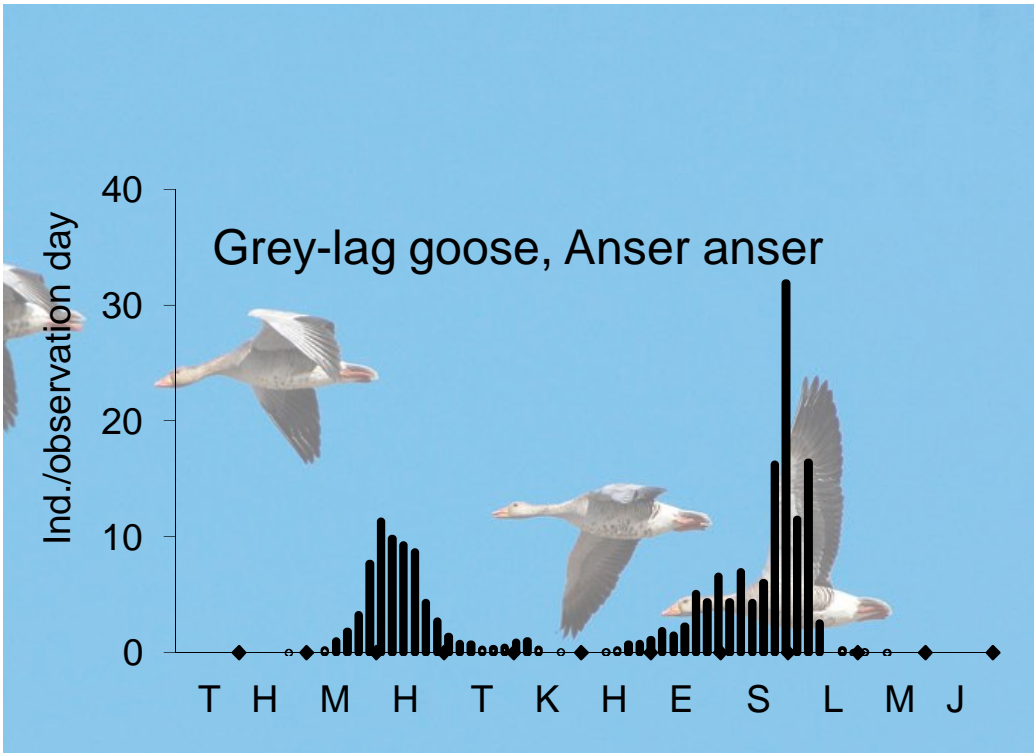
# Climate change may be beneficial for resident species by improving winter survival, e.g. black woodpecker



# Autumn migration of waterfowl



- 14 study species
- 5 delayed their migration
- Nearly all had tendency towards later migration
- Delay on average 0.37 day/year = 11 day in 30 years
- Increasing hunting potential in Finland



Lehikoinen & Jaatinen, unpublished

# Summary

- Migration dates are changing
- Spring migration is advancing and may affect breeding results
- Long-distance migrants are declining
- Short-distance migrants and resident species may benefit
- Autumn migration may advance or delay (prolonging waterfowl hunting season)
- Mismatches in foodweb

Thank you for  
your time!



[www.tringa.fi/fi/hangon-lintuasema/hangon-lintuasema/](http://www.tringa.fi/fi/hangon-lintuasema/hangon-lintuasema/)  
[www.tringa.fi/fi/julkaisuluettelomme.html](http://www.tringa.fi/fi/julkaisuluettelomme.html)