



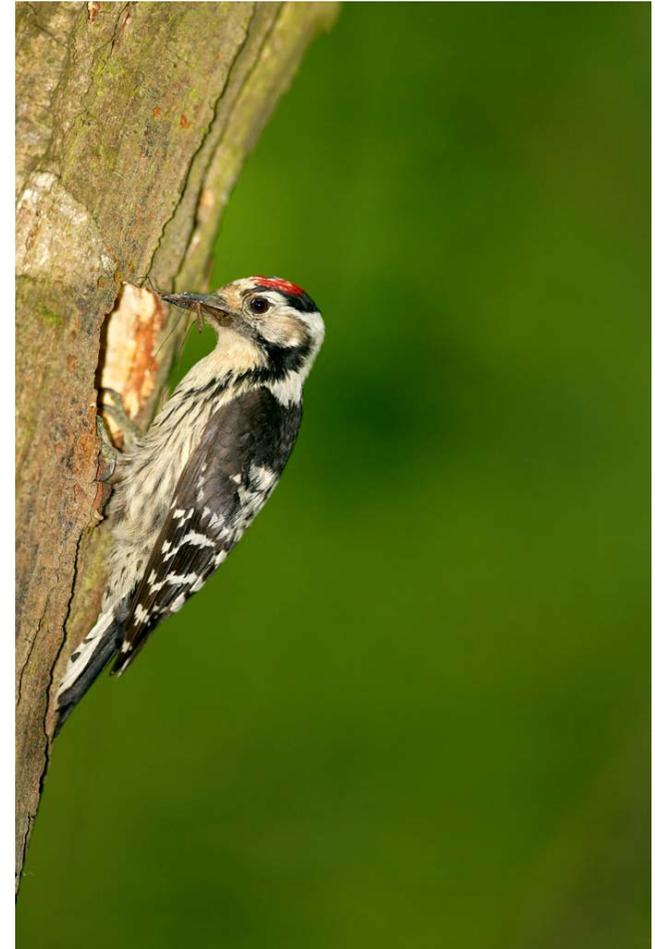
Evidence for drivers of decline and priorities for future research

Elisabeth Charman



Talk structure

- Defra contract CTE0805 ‘Understanding the cause of decline in breeding bird numbers in England’
- Identification of key drivers of decline
 - Habitat management
 - Deer
 - Wintering grounds
 - Climatic change
 - Food availability
- Summary of key research gaps
- Species priorities and stages of current work
- Species research gaps



Defra contract CTE0805

Understanding the cause of decline in breeding bird numbers in England

- Reviewed the evidence for known and likely causes of decline for species in the woodland bird indicator
- Used the review process to identify priorities for future research to address key gaps in the evidence base and develop actions to reverse the declines

BTO Research Report No. 538



Species evidence reviews

RSPB Research Report No. 37

- Lesser spotted woodpecker
- Lesser redpoll
- Willow tit
- Marsh tit
- Song thrush
- Bullfinch
- Hawfinch
- Blackbird
- Dunnock
- Goldcrest
- Jay
- Treecreeper
- Garden warbler
- Nightingale
- Spotted flycatcher
- Tree pipit
- Willow warbler
- Wood warbler



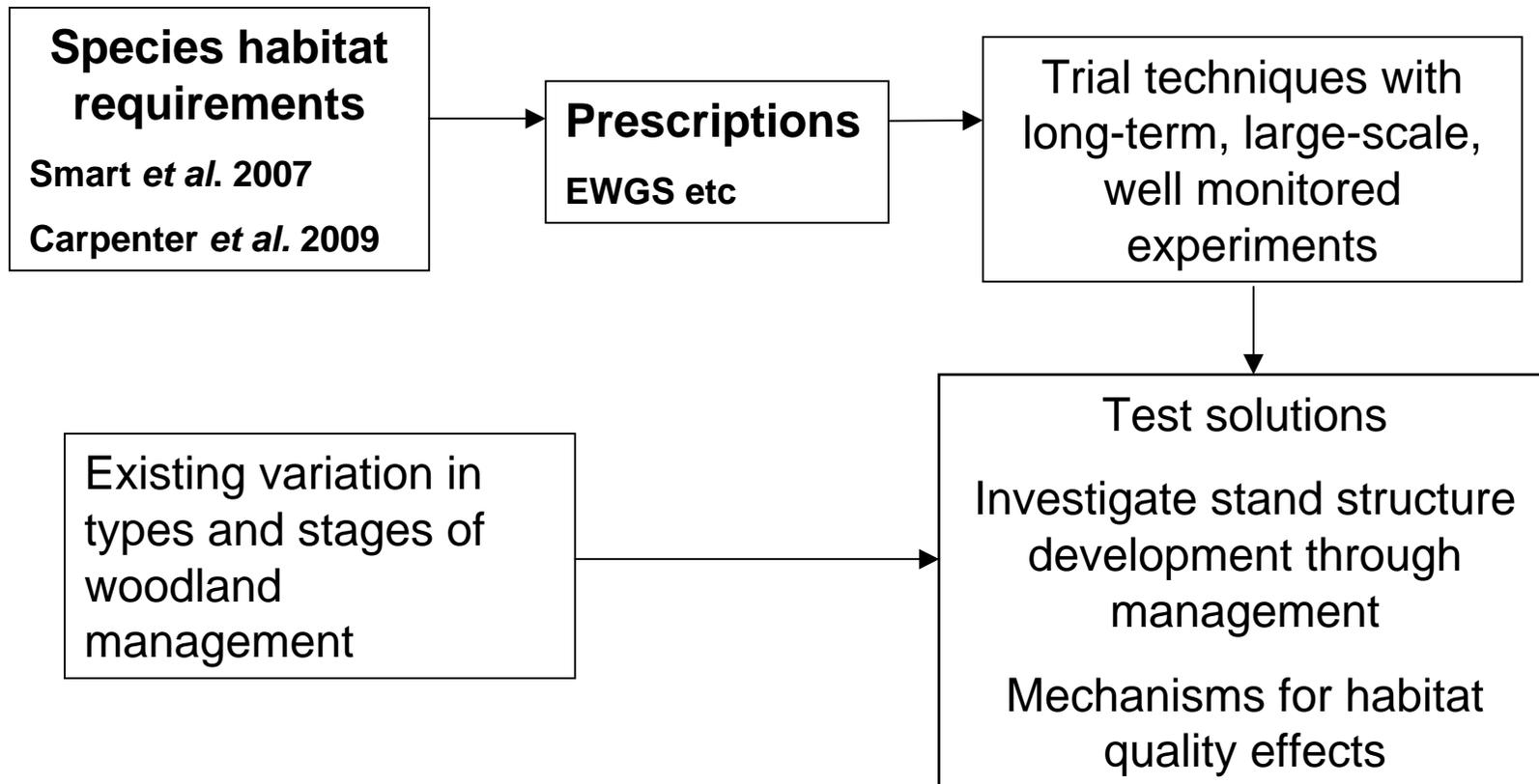
HIGH Priority research

- Investigate change in woodland structure brought about through management
- Investigate change in woodland structure brought about through deer browsing
- For migrants, investigate processes occurring on wintering grounds or during migration
- Investigate the impacts of climatic change
- Investigate the role of food availability



1. Investigate change in woodland management

Change in management \longrightarrow **Unsuitable woodland structure**

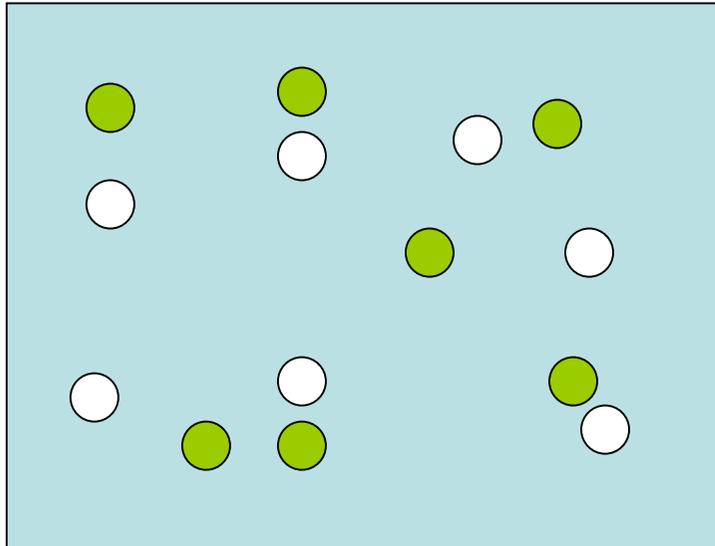


1. Monitoring of the EWGS

- East Midlands – development of regionally focused Woodland Improvement Grant (WIG) specifically focussed on birds
- FC supported project to evaluate the success of the WIG:
 - response by birds to large-scale habitat management implemented through the WIG
 - habitat change resulting from management and the development of stand structure appropriate for birds
- Responses of birds to woodland management:
 - changes in trends through time - before and after active management, and as managed areas mature
 - after repeat surveys, comparisons between control and treatment areas.

1. Monitoring of the EWGS

Upland



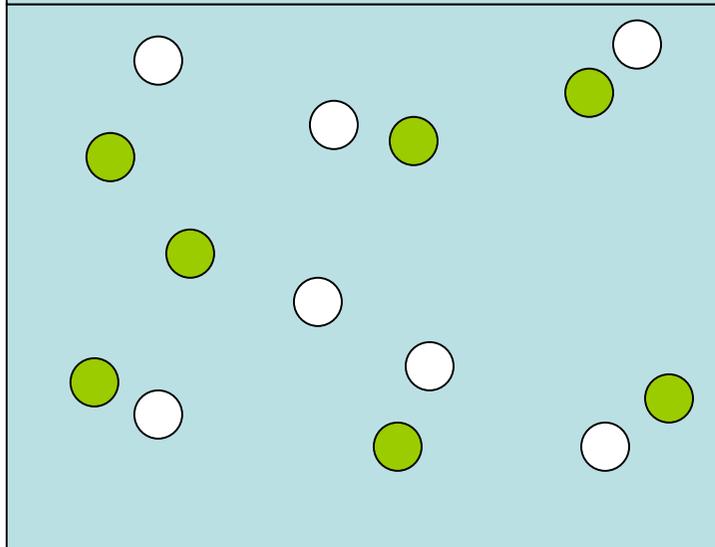
● WIG woods

○ Non-WIG woods

Establish baseline in WIG and non-WIG woods

2010 – 2012+

Lowland



Point counts

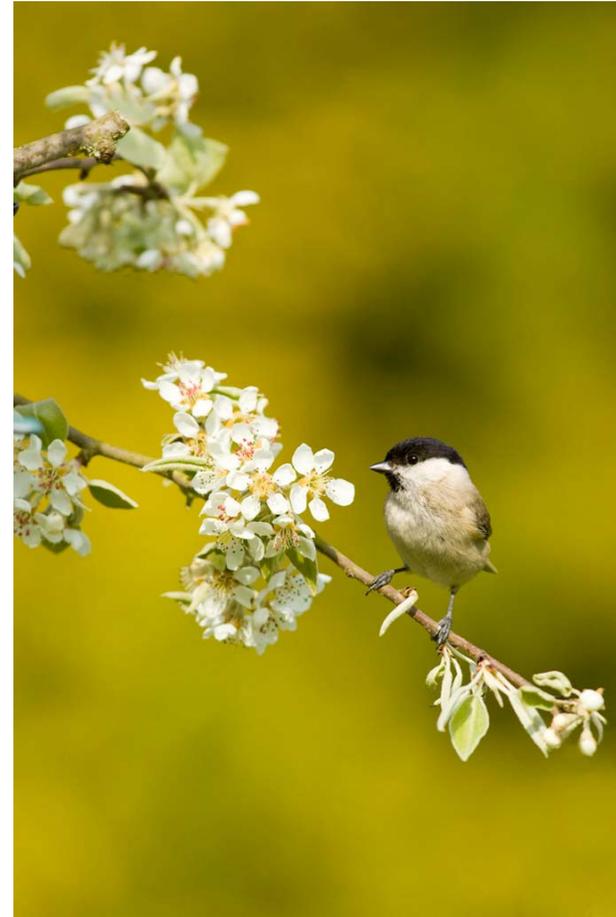
Territory mapping

Habitat surveys

5-year repeat surveys

1. Monitoring of the EWGS

- Spans upland and lowland woods and within a bird priority area with a large amount of funding for habitat management targeted at birds
- Not an experimental approach
- Wood selection determined by application process
- Monitoring responses to broad scale habitat manipulation
- Not targeted at single species



1. Dedicated habitat management trials

- Experimental paired approach with adequate replication and control
- Large scale
- Well monitored
- Targeted at priority species/groups of species
- Targeted at woodland type



Test solutions and refine prescriptions

Improve grant options

Respond to emerging issues

PAWS

Woodfuel

SRF etc

2. Change in woodland structure brought about through deer browsing

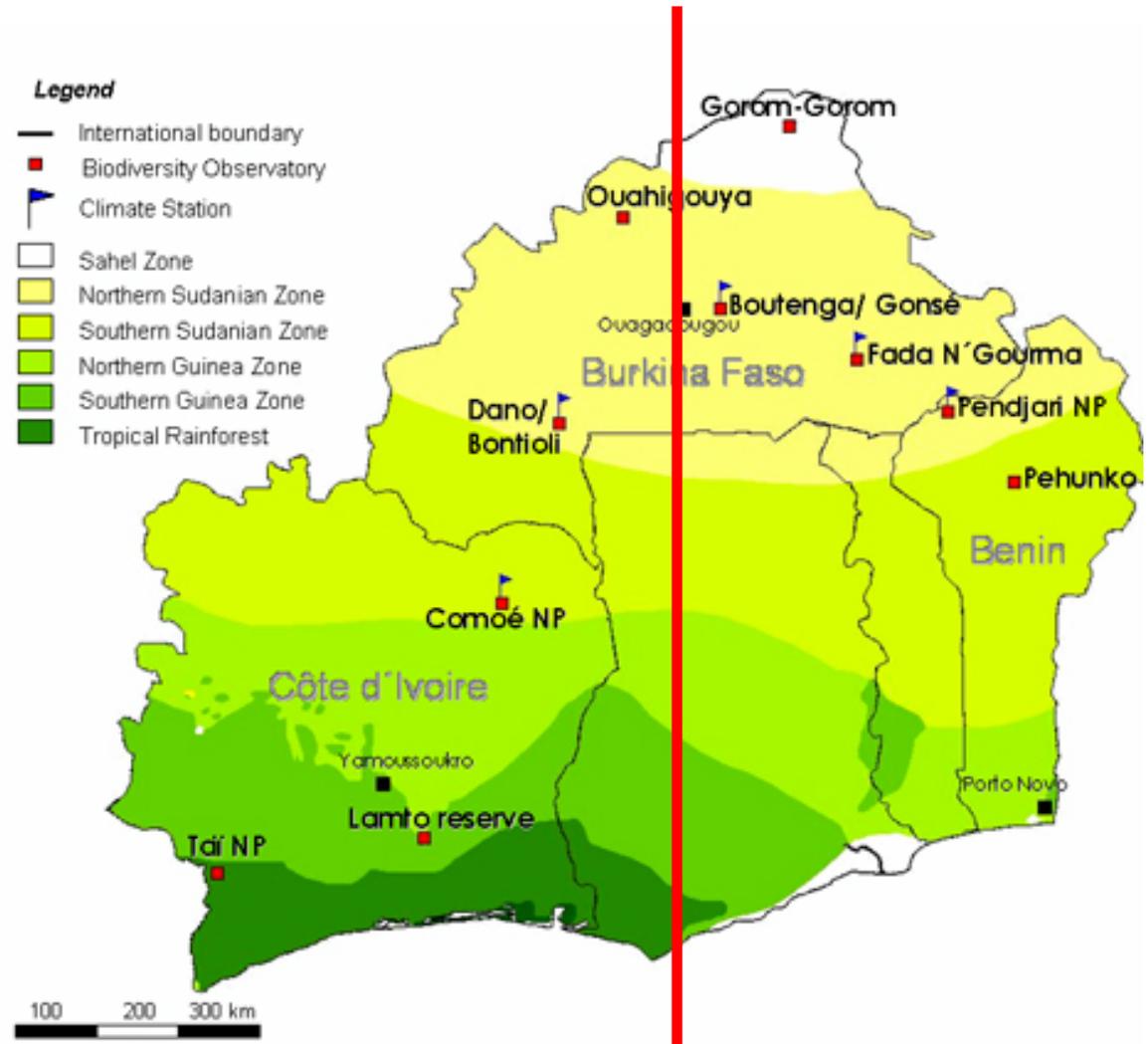
- Comparative and experimental studies to further investigate the role of deer in affecting breeding habitat quality for early successional species
- Investigate the interaction between woodland management and deer browsing in modifying woodland understorey structures and the consequences for habitat quality
- How and if appropriate stand structures can be achieved in the presence of deer.



More from Rob Fuller

3. Factors operating on wintering grounds

- Joint BTO/RSPB project with Ghana Wildlife Society and Naturama
- Distribution and ecology of migrants on wintering grounds
- 1st year of 3 – fundraising dependent



4. Climate change

- Phenological research
- Adaptation
- Predictions of range changes and population trends in the UK resulting from climatic change cf. *Gregory et al. 2009*

5. Food availability

- Changes through time
- Historical data?
- Resurvey of sites?
- [link with stand structure, deer and climate change]



Summary of key research gaps

- Dedicated habitat management trials
 - Responses of birds to habitat prescriptions. Experimental paired approach, long-term, well monitored
- Habitat management in the context of deer browsing
 - Experimental exclosures and deer management with assessment of bird response
- Susceptibility to climatic change
 - Climatic modelling specific to the UK – set species priorities
- Investigate changes in food availability
 - Repeat surveys to assess change
 - Investigate change in accordance with changing stand structure

HIGH priority species research – based on BoCC status, BAP status and magnitude of long term population trend

Specialist residents:

LS woodpecker *

Willow tit *

Hawfinch

Lesser redpoll

Marsh tit *

Long-distance migrants:

Wood warbler * (+ upland oak suite)

Tree pipit *

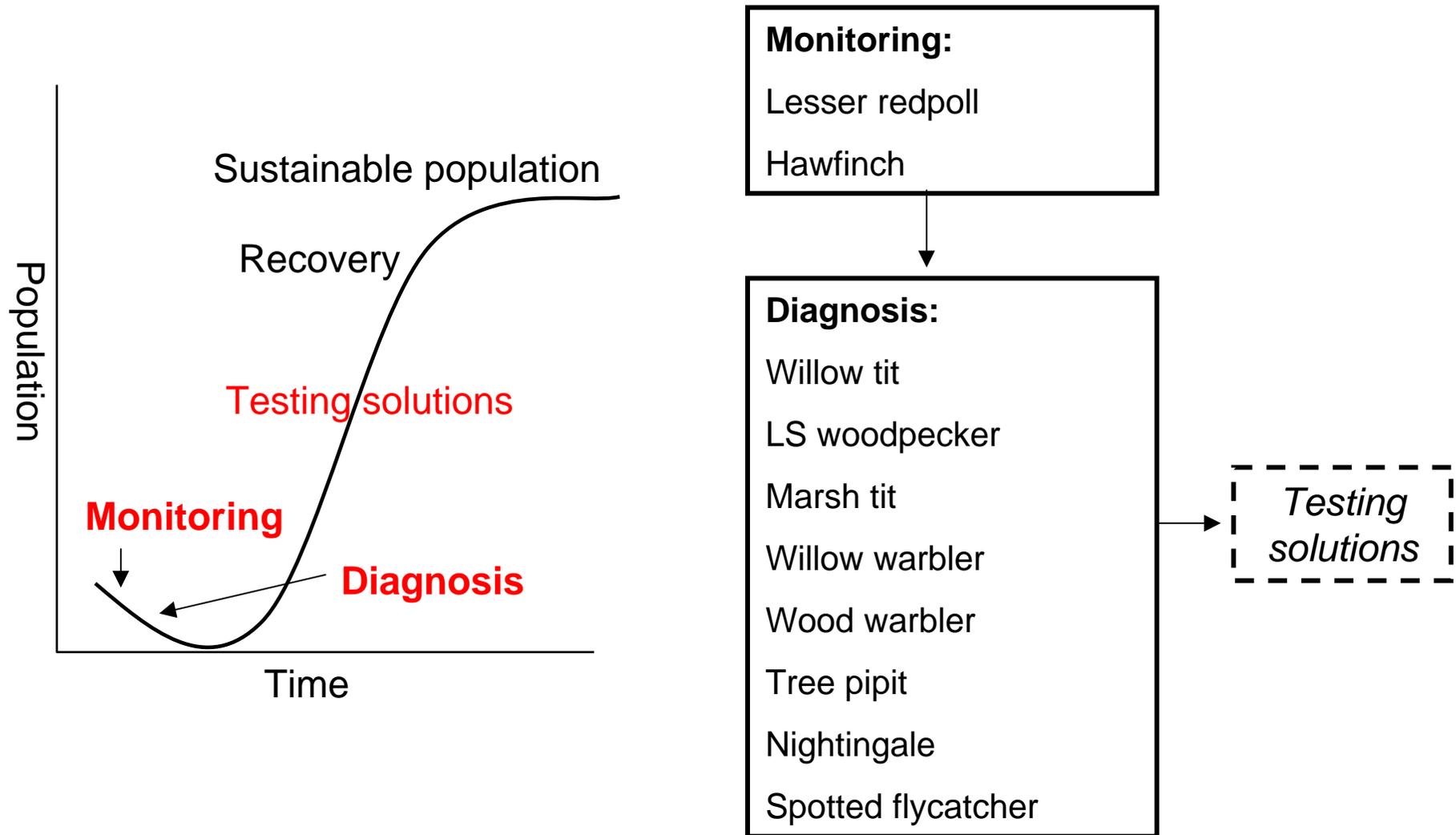
Spotted flycatcher *

Nightingale *

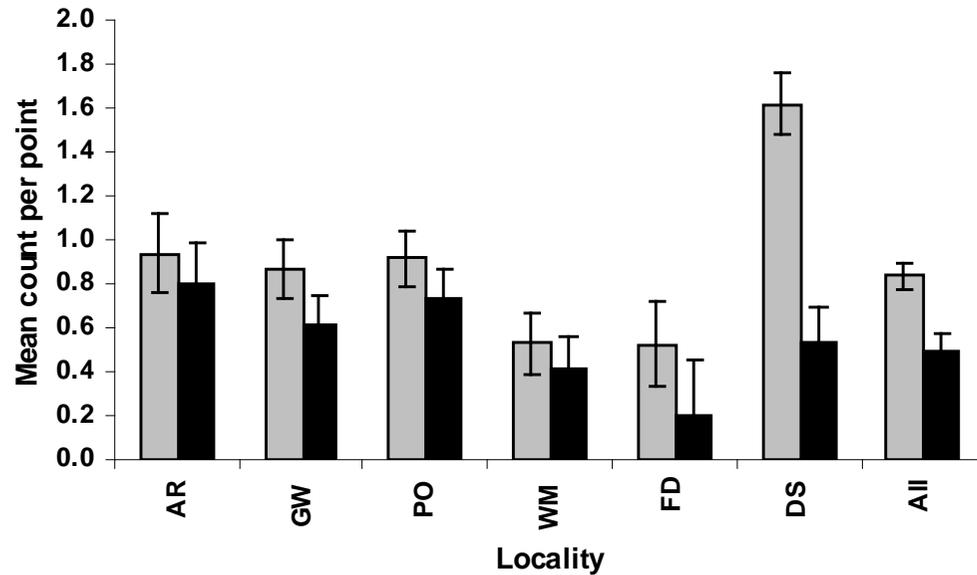
Willow warbler *

* Research initiated

Progress with species research



RSPB wood warbler project

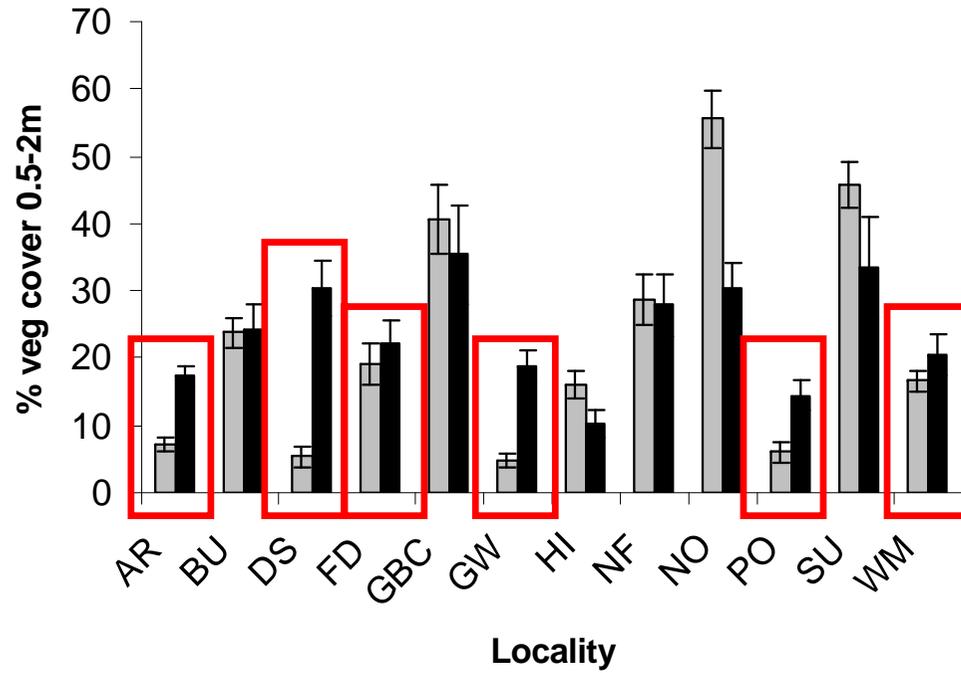


Potential causes of wood warbler declines:

- Problems on wintering grounds
- Adapting to climate change
- Changes in invertebrate abundance
- Predation
- Changes in woodland structure



RSPB Wood warbler project



Key species gaps

5. Lesser spotted woodpecker – no funding in 2010
 - Investigations of the abundance of winter and summer food resources and their contribution to poor breeding success
 - Investigation of causes of nest desertion and biased parental care

6. Willow tit – PhD to finish March 2010
 - Can we produce optimum habitat conditions to:
 - Maintain localised populations?
 - Expand former range?

- Western Atlantic Oakwoods – pied flycatcher, redstart, tree pipit and wood warbler
 - Experimental approach to establishing optimum grazing regimes

Key research requirements

- Dedicated habitat management trials
- Habitat management in the context of deer browsing
- Susceptibility to climatic change
- Investigate changes in food availability
- Lesser spotted woodpecker
- Willow tit
- Western Atlantic Oakwoods – pied flycatcher, redstart, tree pipit and wood warbler

