Delivering farmland birds & other biodiversity through agri-environment: Practice, research and monitoring experiences from the UK

Abigail Bunker, Head of Agriculture Policy, Royal Society for the Protection of Birds (and other biodiversity too!)
What I will cover

1. The RSPB and agriculture (esp arable)
2. Recent & ongoing research work – some eggs
3. Recent & ongoing monitoring work
4. Biodiversity & conventional arable farming in practice: Hope Farm
5. Lessons learned – from our & others research
6. Reasons for optimism.....
1. The RSPB and farming
2. Recent & ongoing research

a) SAFfIE collaborative project (Safeguarding Arable Farming for an Improved Environment)

b) Post-SAFfIE work (at Hope Farm)

b) Operation Turtle Dove
a) SAFfIE – key findings

- Skylark plots increase chick numbers by up to 50%
- Wild flowers in field margins increase beneficial insects by up to 80%
- Selective herbicides only in spring, benefit biodiversity within crops
- Opening up grass margins improves farmland biodiversity
- Skylark plots with open margins increase farmland birds x4 (four fold)
- Good uptake of the right combinations of agri-environment options in ES will deliver results

www.saffie.info
Post- SAFfIE research (2008-2012)

Floristically-enhanced margins

• Relatively high costs of establishment
• Since the end of SAFfIE, RSPB has continued trials at Hope Farm to identify the optimal frequency of scarification to ensure greater value for money
• Results provisional: biennial scarification appears to be most positive treatment for widest range of species (but not all benefit)
• Analysis to be finalised Winter 2013, for publication 2014
b) Ongoing research - Turtle Doves
Decline & Fall

UK:
- 93% (1970 - 2010; BBS)
- 35% (1995 - 2010, BBS)
- c.60% in last 5 years
- Pop estimate 14,000 pairs

Europe:
- 73% (1980 - 2010; PECBMS)
- 29% (1990 - 2010; PECBMS)
- Pop estimate 3.5 - 7.2 m pairs
- EU 1.6 - 2.6 million pairs (BirdLife 2004)
What are we doing?

1. Study habitat correlates of occupied sites
2. Provide & test breeding season food → increase reproductive success?
3. Investigate role of disease
4. Gather data on factors outside of UK
## Solution testing: trial seed plots

<table>
<thead>
<tr>
<th>Species</th>
<th>% weight</th>
<th>Mix 1</th>
<th>Mix 2</th>
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<tr>
<td>Common Fumitory <em>Fumaria officinalis</em></td>
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<td>Corvus Red Clover <em>Trifolium pratense</em></td>
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<td>10.0</td>
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<td>Avoca White Clover <em>Trifolium repens</em></td>
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<td>20.0</td>
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<td>Virgo Black Medick <em>Medicago lupolina</em></td>
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<td>Common Mouse-Ear <em>Cerastium fontanum</em></td>
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<td>Bird’s Foot Trefoil <em>Lotus corniculatus</em></td>
<td>0</td>
<td>20.0</td>
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</tbody>
</table>
Trial Seed Plots: do they increase reproductive success?

- Radio-tracking: 28 adults in 2013
- Nest finding: c.30 nests 2013
- Monitoring breeding success
  - More breeding attempts?
  - Better reproductive output pp?
  - Better chick condition/growth?
3. Recent monitoring of Agri-env

a) Scottish Agri-environment schemes for corn buntings
b) Northern Ireland agri-environment (CMS)
c) English Higher Level scheme (HLS)
d) Welsh agri-environment scheme
e) Wider biodiversity benefits of English agri-environment targeted at birds
a) AE for corn buntings in Scotland

![Graph showing territory density over years for different treatment groups.](image)
Main conclusions of corn bunting monitoring

• Monitoring essential to measure success & make improvements
  – Scottish AES now includes a Corn Bunting ‘package’ of key options

• AES better targeted when deployment is backed by expert advice
  – putting the right options in the right places
  – varying the management to suit local conditions/farming systems

• Scale of deployment must be sufficient
  – targeted schemes reaching 24% of mainland Scotland Corn Bunting population
  – needs to be c.70% to balance declines outside AES & halt national decline
c) Effectiveness of England’s HLS for target bird species

- Whole-farm surveys of breeding bird abundance on 65 HLS farms & 30 ‘control’ farms (no AgriEnv) in 2008 & 2011

- Assessments of HLS option quality (bird usage & seed resources) during summer & winter (2009-11)
HLS and control farms
Population changes on HLS vs. control farms

2/3 regions

- Control: + 73%
- HLS: + 126%
Population changes on HLS vs. control farms

Predicted abundance

- HLS: +69%
- Control: +6%

3/3 regions
Main Conclusions of HLS monitoring

• Quite large increases in abundance of five field-edge species on HLS farms in just 3 years.
• Changes in Yellowhammer abundance most positive on farms with large areas of seed-rich measures.
• No impact of HLS found on in-field species (Grauammer, Kiebitz, Schafstelze, Feldlerche). Probably reflects lack of in-field options taken up.
• Food resources in ES winter options highly variable
Wider biodiversity benefits of Agri-environment targeted at birds
Management for corncrakes

- Early / Late Cover (ELC)
- No grazing March-October
- Western Isles
- SPA and RSS

- Delayed mowing (DM)
- Mown after 31 July
- “Corncrake friendly” mowing
- Orkney
- CPS and RSS
Management for stone curlew

- Available under HLS and ELS
- 2 ha fallow plots (prepared by March)
- Also available for other birds (lapwing) & arable plants
Management for cirl buntings

- Low input spring cereal leading into winter stubble
- In English entry level and higher level schemes (ELS/HLS)

- No inputs, extensively managed grassland
- In English entry level and higher level schemes (ELS/HLS)
Stone curlew plots – benefits for bees/butterflies
Cirl Bunting management – benefits for carabid beetles

- Abundance
- Species richness

Abundance and species richness compared across different treatments:

- AES pasture
- Grazed Control
- AES Spring Barley
- Control Spring Barley
- AES Spring Barley
- Winter cereal
4. Farming & agri-environment in practice - Hope Farm
Seed food including wild bird cover and sacrificial crops
Overwinter stubble
Pollen and Nectar mixtures
Floristic Grass margins
Grass margins protecting watercourses
Fallow land with Broadcast Mustard

Beetle bank
Wild bird cover resown October 2009
Hope Farm – beyond just birds!

- Substantial **increase in area** of non-cropped flower-rich areas: 0ha in 2000, 2ha in 2013
- Our focus - how to **prolong lifespan** and **enhance quality** from every metre
- Zero use of neonicotinoid-coated seed on flowering crops
- PhD starting investigating mechanism for transfer of neonics to non-cropped habitats
- Integrated pest management project
5. Lessons learned.....

- VITAL importance of robust monitoring and evaluation
- Money is tight – let’s not waste one Euro on measures without clear evidence basis!
- Ensuring the uptake of the right *combinations* of measures is critical to outcomes
- Greater scale of action is needed, but the right actions in the right places
- Well designed agri-environment measures targeted at specific species do yield wider biodiversity benefits
- Simple and affordable are no good if it isn’t EFFECTIVE
…..more lessons learned?

• Delivery is as important as design – expert advice & aftercare important (but not always critical)
• Agri-environment cannot achieve everything! Greening and regulation is fundamental to ensuring results for nature and value-for-money for the taxpayer!
• Greening – will be vital to monitor its impacts
• Don’t wait until your bird is so rare that you can’t find any to study!
6. Reasons for optimism
I'm well up for CAP greening

I know it may not be fashionable but, to use modern parlance, I'm well up for the greening of the CAP. The assertion that every farmer in the UK is still a production junkie is just not true. My own addiction to production-based support has been broken and I've no desire to slip back into that habit. Like many others, however, I still have skeletons rattling in my cupboard from the damage I did to the environment in my younger days when production was the only focus of farm support.

Many farms function best when support is geared towards production, but many others are better suited to a greener approach. My own farm is a typical example. To give you an idea of what it is like at Ayrwood, it's as if the creator, after he or she had made the world, dumped all the bits and pieces that were left right outside my house. I have peat bogs, wetlands, herb-rich pastures, native woodlands, lochs and wee ditches that run into burns that flow into a river. In between all of this natural mayhem, scattered carelessly in random shapes and sizes, there are fields where I can produce food.

But the real jewel in my farm's crown is two hectares of ancient woodland pasture that the Southern Upland Way footpath goes through. The woman who recently completed an environment audit for me told me that it was the nicest piece of farmland that she had ever set foot on. I have to admit to a feeling of pride when she said that.

However, this pride was tempered by guilt because I knew that I had done my best to destroy the place when I was younger. It wasn’t an act of blatant eco-terrorism or even carelessness that had led me to nearly wreck it.

But rather, it was the financial pressure in those days to keep more and more livestock to gain more subsidy payments. Ancient woodland pasture is great shelter, but it does not take too kindly to having loads of sudden cows wintered on it. Hungry eyes riving off the young shoots of recovery every spring do it no good either.

Now that I’m blabbing my sins freely, I may as well tell you about another of my past unfortunes. The fact that I was aided and abetted by the government almost makes it pardonable.

That great pro-production tool of the 1980s called the “pioneer crop grant” laid waste to more land in the south of Scotland than Edward I. The theory was that rough grazing on the hill would be cultivated and eventually sown out with more productive grasses. The reality is that much of the land that was brutalised using this grant scheme is now covered with a barren blanket of rushes. Without the unsustainable drip of subsidised lime and chemical treatments, the rushes have eventually taken over. I’m the less-than-proud owner of several of these disaster areas.

The real jewel in my farm's crown is two hectares of ancient woodland pasture that the Southern Upland Way footpath goes through.

If absolution can be granted for all my past eco crimes then I'll be very happy. However, what worries me is that some farmers are now giving the impression that collectively we are a group in opposition to biodiversity in favour of production.

Quite why they would want to be involved with a public relations disaster like that I've no idea. I can only suppose that, unlike me, the poor souls never had any biodiversity to care for - or perhaps they did but they just can't remember ever having it.

Neale McQuistin is an upland sheep and beef farmer in South West Scotland. He farms 365 hectares in partnership with his wife, much of which is under stewardship for wildlife.

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Thank you for listening!

The RSPB is part of BirdLife International, a partnership of nature conservation organisations working to give nature a home around the world.
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