The national picture
Status and trends for Curlew in Scotland

Chris Wernham, Mark Wilson, John Calladine & Sam Franks (BTO)
All Understanding Predation contributors
BTO images contributing photographers
Wha’s up wi’ thee lang leggedy beastie i’ Scotland

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BTO images contributing photographers
Globally
IUCN status
‘Near-threatened’

Europe
‘Vulnerable’ status –
    declines of 30-50%

UK
‘Red-listed’
28% of European breeding
    population (~68,000 pairs)
    ~¼ of global population
**Baxter & Rintoul 1953**

“The Curlew nests in every mainland county of Scotland, particularly affecting the rolling grassland hills and those where the heather is not too rank. It also breeds on old lea, for example, about us the old grassland at about 500-600 ft is a favourite breeding place for Curlew.”

“The central belt contains the finest agricultural land; here most of the wheat is grown and the red lands of the Lothians have long been famous for the quality of their potatoes. Much of the grass has been brought under the plough during the war and this has circumscribed the breeding ground of species such as the Curlew, which prefer to nest in rough grass.”

**Thom 1986**

“There is not enough information on past numbers and distribution to allow assessment of any trend, except on some Scottish islands.”

e.g.
- Outer Hebrides (Lewis) colonised in 1965
- Tiree, Coll & Raasay no longer held breeding pairs
- 1,000+ pairs on Orkney but being affected by changing land-use
Ringing shows a decided movement to West Scotland and the Islands and an even stronger one to Ireland from all parts of Scotland as far north as Inverness.

Baxter & Rintoul 1953

Scotland WeBS data 1974/75 – 2016/17

<table>
<thead>
<tr>
<th>Year</th>
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Index value

Year

Index

Index with high imputation

Trend
Loss of breeding Curlew from Britain & Ireland since 1968/72
Steady loss of breeding Curlew from Scotland since 1968/72
- 11% range contraction in Scotland in 20 years
- 17% in Britain
- 78% in Ireland
Breeding Abundance Change 1988–91 to 2008–11

- 28% decrease in abundance in Scotland over 20 years from Bird Atlas data

© BTO
Change in abundance averaged across breeding waders
## Changes in Scotland 1988-91 to 2008-11

**Breeding waders**

<table>
<thead>
<tr>
<th>Species</th>
<th>Range change (atlas)</th>
<th>Abundance change (atlas)</th>
<th>Abundance change (BBS 1995-2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oystercatcher</td>
<td>-1%</td>
<td>-2%</td>
<td>-38%*</td>
</tr>
<tr>
<td>Dotterel</td>
<td>-11%</td>
<td>-29%</td>
<td></td>
</tr>
<tr>
<td>Golden Plover</td>
<td>-13%</td>
<td>-12%</td>
<td>-23%</td>
</tr>
<tr>
<td>Lapwing</td>
<td>-9%</td>
<td>-35%</td>
<td>-57%*</td>
</tr>
<tr>
<td>Dunlin</td>
<td>-19%</td>
<td>-8%</td>
<td></td>
</tr>
<tr>
<td>Snipe</td>
<td>1%</td>
<td>-9%</td>
<td>26%</td>
</tr>
<tr>
<td>Curlew</td>
<td>-11%</td>
<td>-28%</td>
<td>-61%*</td>
</tr>
<tr>
<td>Common Sandpiper</td>
<td>-3%</td>
<td>-19%</td>
<td>-18%</td>
</tr>
<tr>
<td>Greenshank</td>
<td>6%</td>
<td>28%</td>
<td></td>
</tr>
<tr>
<td>Redshank</td>
<td>-37%</td>
<td>-39%</td>
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</tr>
</tbody>
</table>
Changes in contrasting landscapes
Bird Atlas abundance change 1988-91 to 2007-11
Drivers of change?
Systematic review of published science on predator-prey interactions in Scotland

Collation of knowledge from those that live, work or spend leisure time in the countryside

Comparison of the two sources to explore common ground and divergent views and the possible reasons for these

Identified opportunities for increasing agreement and understanding on how to conserve wader populations between sectors

www.moorlandforum.org.uk/understanding-predation-report-launch
Understanding Predation – focal species

6 wild ground-nesting birds (including 4 waders)

- Black Grouse
- Eurasian Curlew
- Golden Plover
- Grey Partridge
- Lapwing
- Oystercatcher

Small number of common predators as focal species

- Common Buzzard
- Carrion and Hooded Crow
- Raven
- Red Fox
Systematic reviewing – drivers of population change

- Habitat/land-use change
- Predation
- Climate change /weather
- Food availability
- Agrochemicals
- Disease / parasites
- Grazing (deer and livestock)
- Recreational disturbance
### Results – drivers of population change

<table>
<thead>
<tr>
<th>Science review</th>
<th>Stakeholders using mostly ‘Local Knowledge’</th>
<th>Stakeholders using mostly ‘Scientific Knowledge’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranked 1</td>
<td>Habitat change</td>
<td>Predation</td>
</tr>
<tr>
<td>Ranked 2</td>
<td>Predation</td>
<td>Habitat change</td>
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<tr>
<td>Ranked 1</td>
<td>Habitat change</td>
<td>Predation</td>
</tr>
<tr>
<td>Ranked 2</td>
<td>Agrochemicals</td>
<td>Habitat change</td>
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<tr>
<td>Ranked 1</td>
<td>Habitat change</td>
<td>Predation</td>
</tr>
<tr>
<td>Ranked 2</td>
<td>Predation</td>
<td>Habitat change</td>
</tr>
<tr>
<td>Ranked 1</td>
<td>Habitat change</td>
<td>Predation</td>
</tr>
<tr>
<td>Ranked 2</td>
<td>Predation / Food / Grazing</td>
<td>Habitat change</td>
</tr>
<tr>
<td>Ranked 1</td>
<td>Predation</td>
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<td>Habitat change</td>
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<tr>
<td>Ranked 1</td>
<td>Habitat / Predation / Climate Food</td>
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<tr>
<td>Ranked 2</td>
<td>Predation</td>
<td>Habitat change</td>
</tr>
</tbody>
</table>

[www.moorlandforum.org.uk/understanding-predation-report-launch](http://www.moorlandforum.org.uk/understanding-predation-report-launch)
Results – causes of population change

AGREEMENT between participants and the scientific literature

• Habitat/land-use change and predation are both important causes of population decline for all 4 focal wader species (including Curlew)

• These can interact to cause population decline

• There is recognition of the need to improve (or maintain good) habitat quality

• Foxes and crows are demonstrated/understood to be more important predators of waders than Buzzards or Ravens
Results – causes of population change

DIVERGENT VIEWS between participants and the scientific literature

- Local Knowledge participants ranked predation higher than habitat change as a cause of wader declines.

- Local knowledge participants named a wider range of predators as causes of declines (e.g. stoat, weasel, mink, badger, sparrowhawk and gulls) – no literature to test this is available.

- Local knowledge participants ranked human disturbance significantly higher – again scientific studies are sparse but some evidence for Curlew (e.g. Pennines).
Correlates of Curlew abundance/abundance change from BBS/Bird Atlas analyses at UK scale

<table>
<thead>
<tr>
<th>Variable</th>
<th>Effect on curlew abundance or population change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable farming</td>
<td>−</td>
</tr>
<tr>
<td>Forest cover</td>
<td>−</td>
</tr>
<tr>
<td>Semi-natural grassland</td>
<td>+</td>
</tr>
<tr>
<td>Warmer and drier summer weather</td>
<td>−</td>
</tr>
<tr>
<td>Crow &amp; fox abundance</td>
<td>−</td>
</tr>
<tr>
<td>Gamebird abundance</td>
<td>+</td>
</tr>
<tr>
<td>Strip burning</td>
<td>−</td>
</tr>
</tbody>
</table>

Franks et al. 2017 Bird Study

Border et al. In prep.
Curlew

Current status (Bird Atlas 2007-11) – not all bad news . . .
Curlew breeding abundance from BBS 1994-2017

BBS index for Scotland 1994-2017

Curlew

Index (100 in 1994)

-61% *


BBS index for UK 1994-2017

Curlew

Index (100 in 1994)

-48% *


BBS index for England 1994-2017

Curlew

Index (100 in 1994)

-30% *


BBS index for Wales 1994-2017

Curlew

Index (100 in 1994)

-63% *

Results – drivers of population change

Figure 4. Comparison of the Local Knowledge (orange bars) and Scientific Knowledge (blue bars) respondents (n=321) and scientific literature (grey bars) on the ranked importance (where the rank of 8 is given to the most important driver and 1 to the least important) of human and environmental drivers of population change for the six focal prey species.