The national picture

Status and trends for Curlew in Scotland

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All *Understanding Predation* contributors

BTO images contributing photographers

Wha's up wi' thee lang leggedy beastie i' Scotland

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<u>Globally</u>

IUCN status

'Near-threatened'

<u>Europe</u>

'Vulnerable' status – declines of 30-50%

<u>UK</u>

'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."

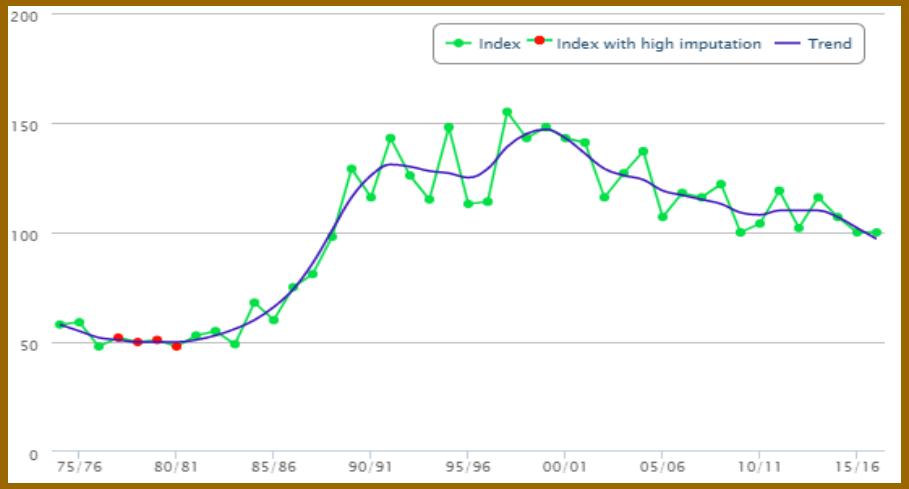
Thom 1986

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

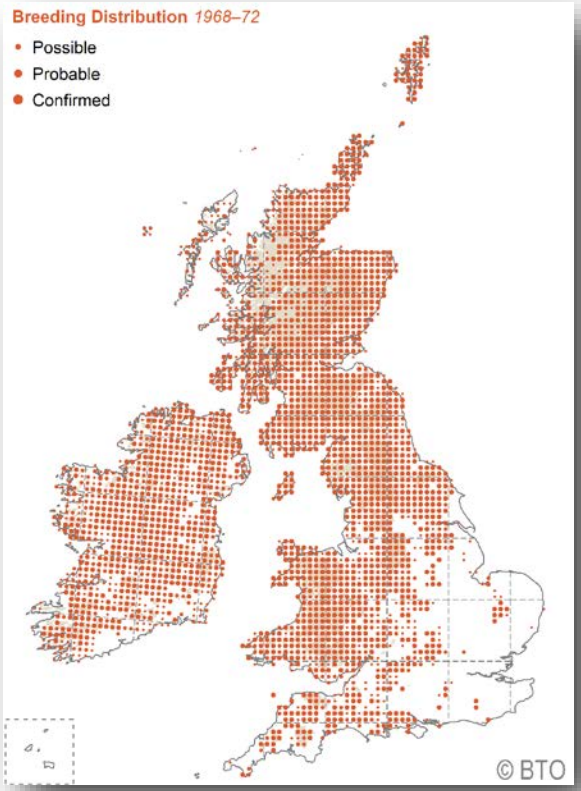
e.g.

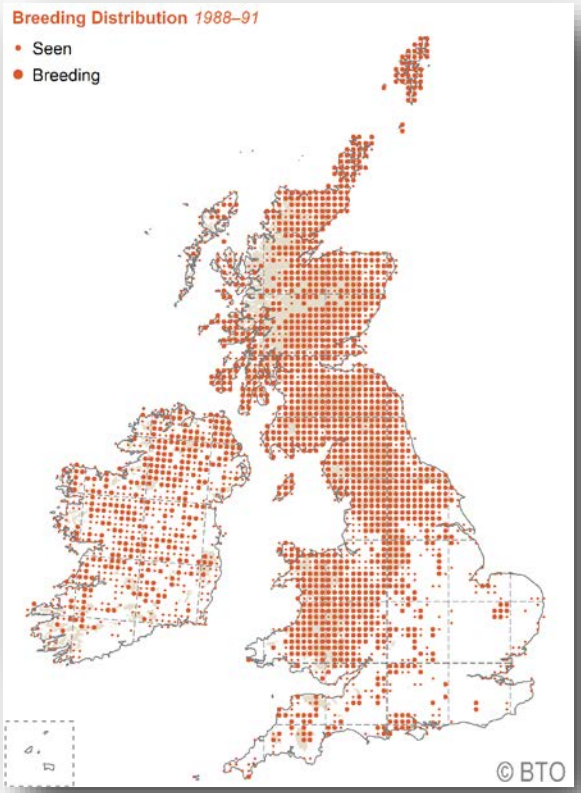
- *Outer Hebrides (Lewis) colonised in 1965*
- *Tiree, Coll & Raasay no longer held breeding pairs*
- *1,000+ pairs on Orkney but being affected by changing land-use*

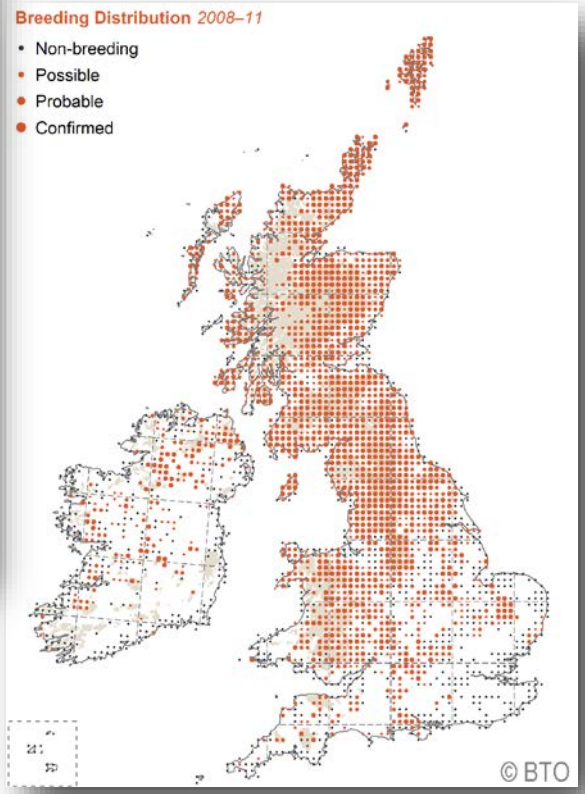
Scotland WeBS data 1974/75 – 2016/17



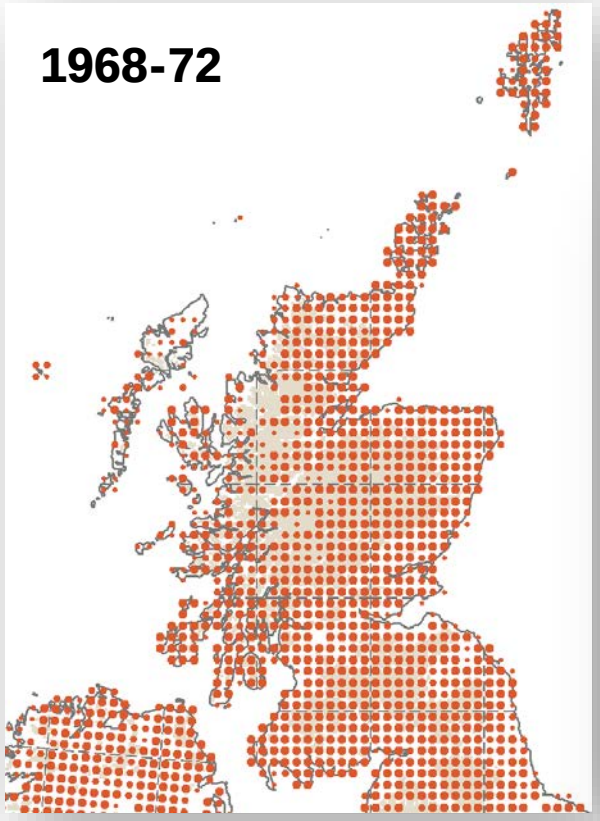
Loss of breeding Curlew from Britain & Ireland since 1968/72

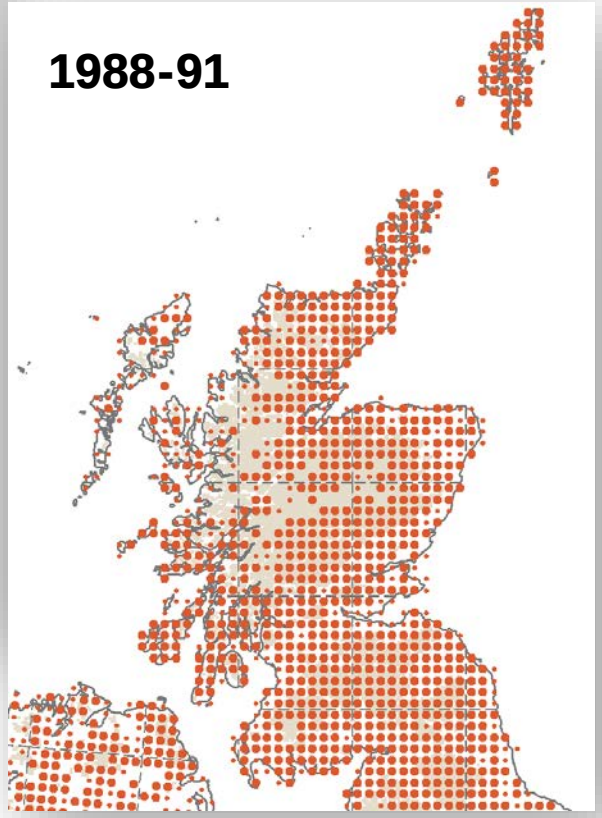


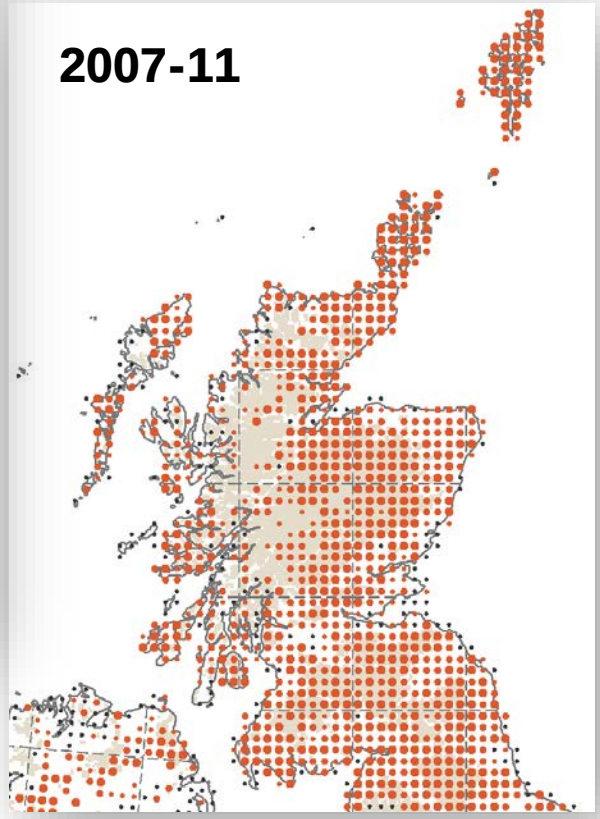


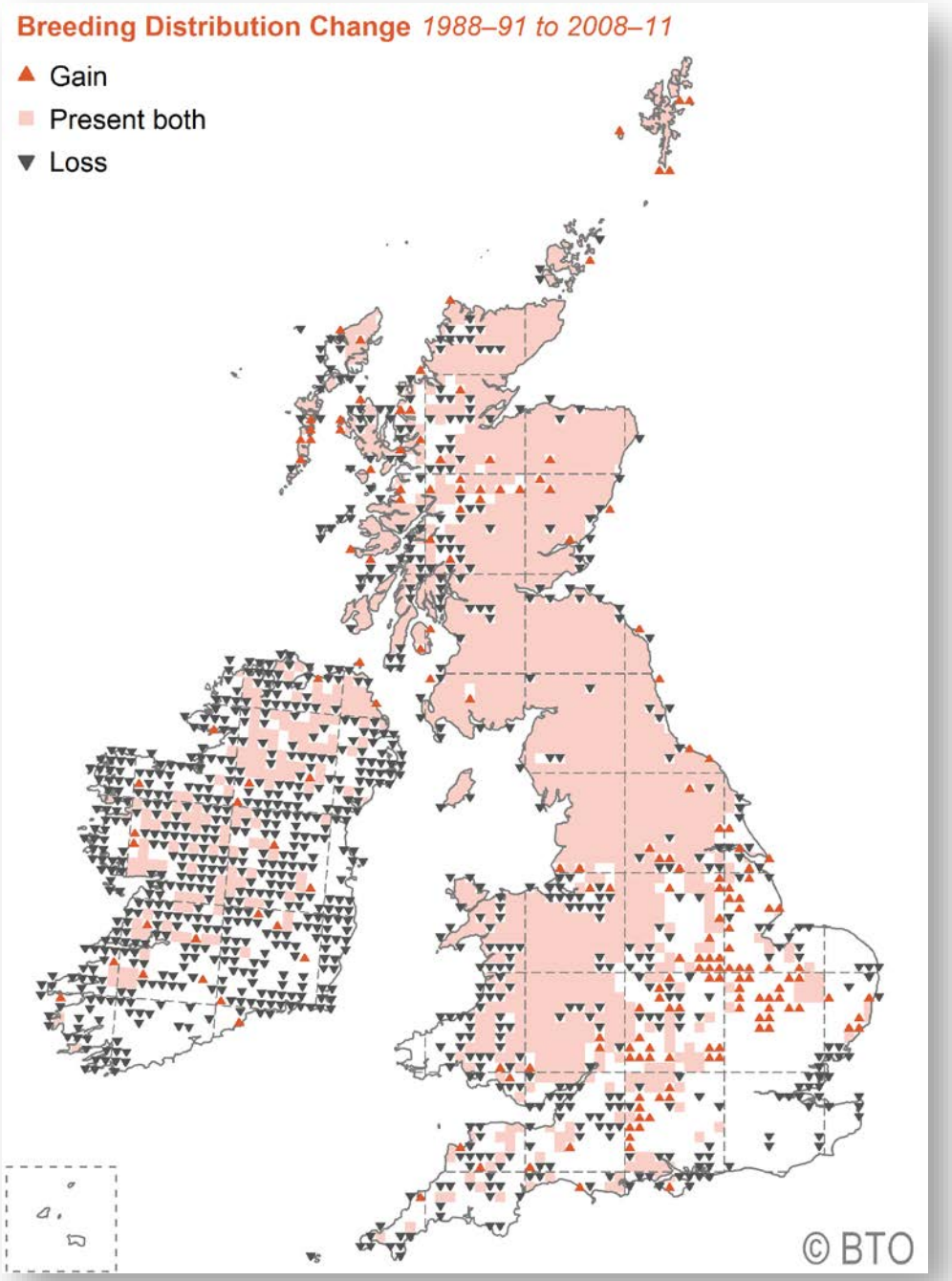


Steady loss of breeding Curlew from Scotland since 1968/72





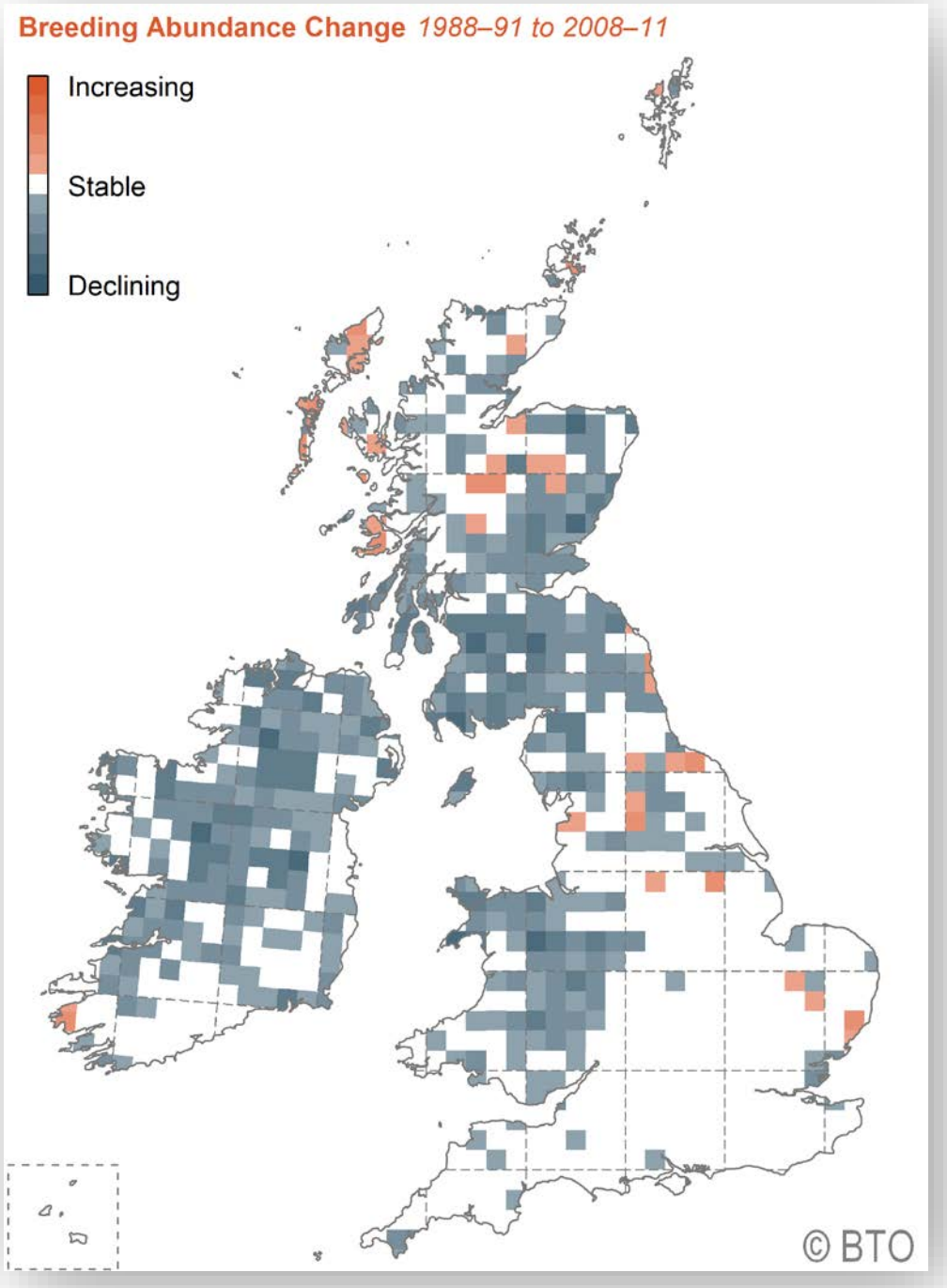




-11% range contraction in Scotland in 20 years

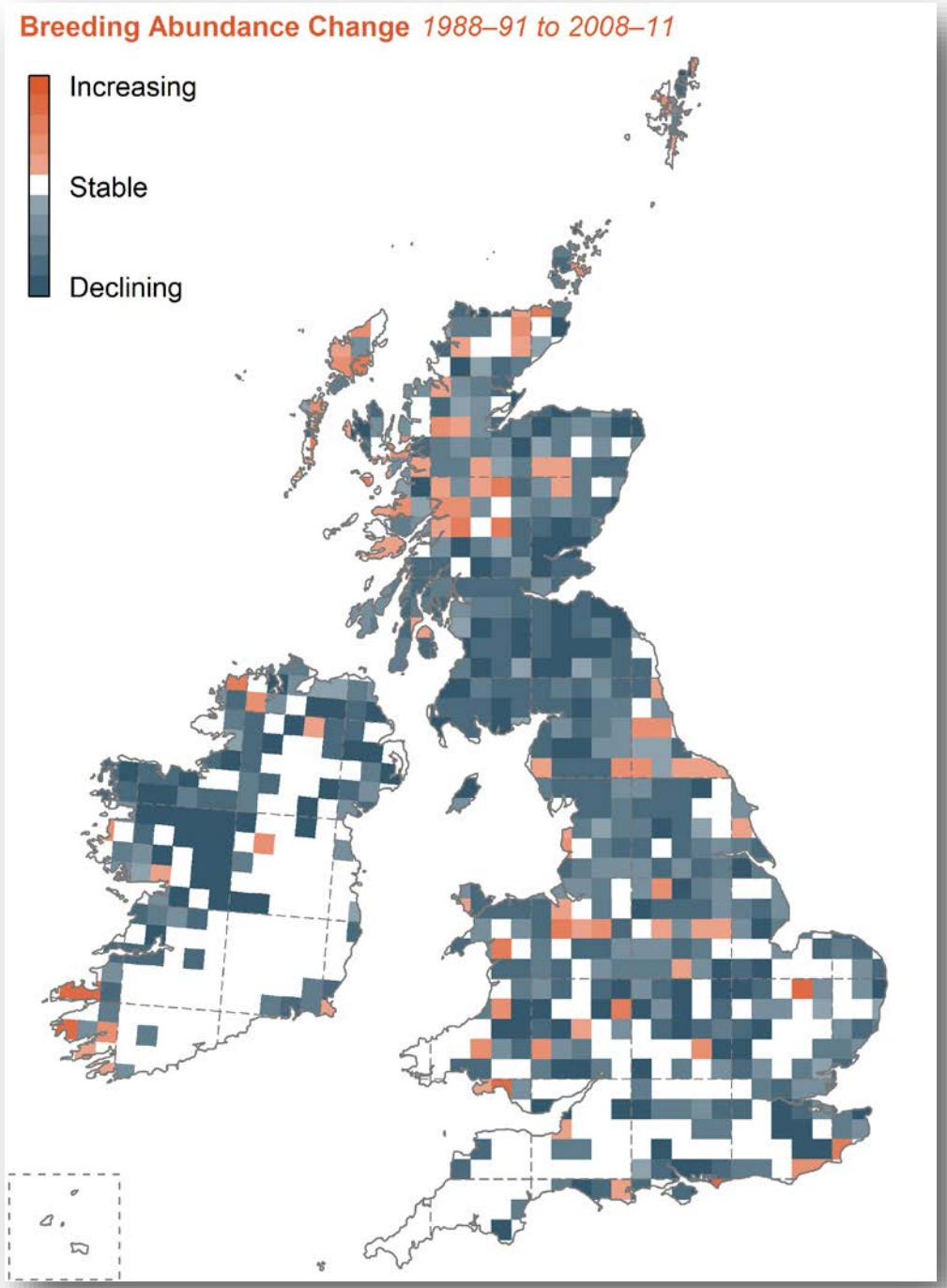
-17% in Britain

-78% in Ireland



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

Change in abundance averaged across breeding waders



Changes in Scotland 1988-91 to 2008-11

Breeding waders



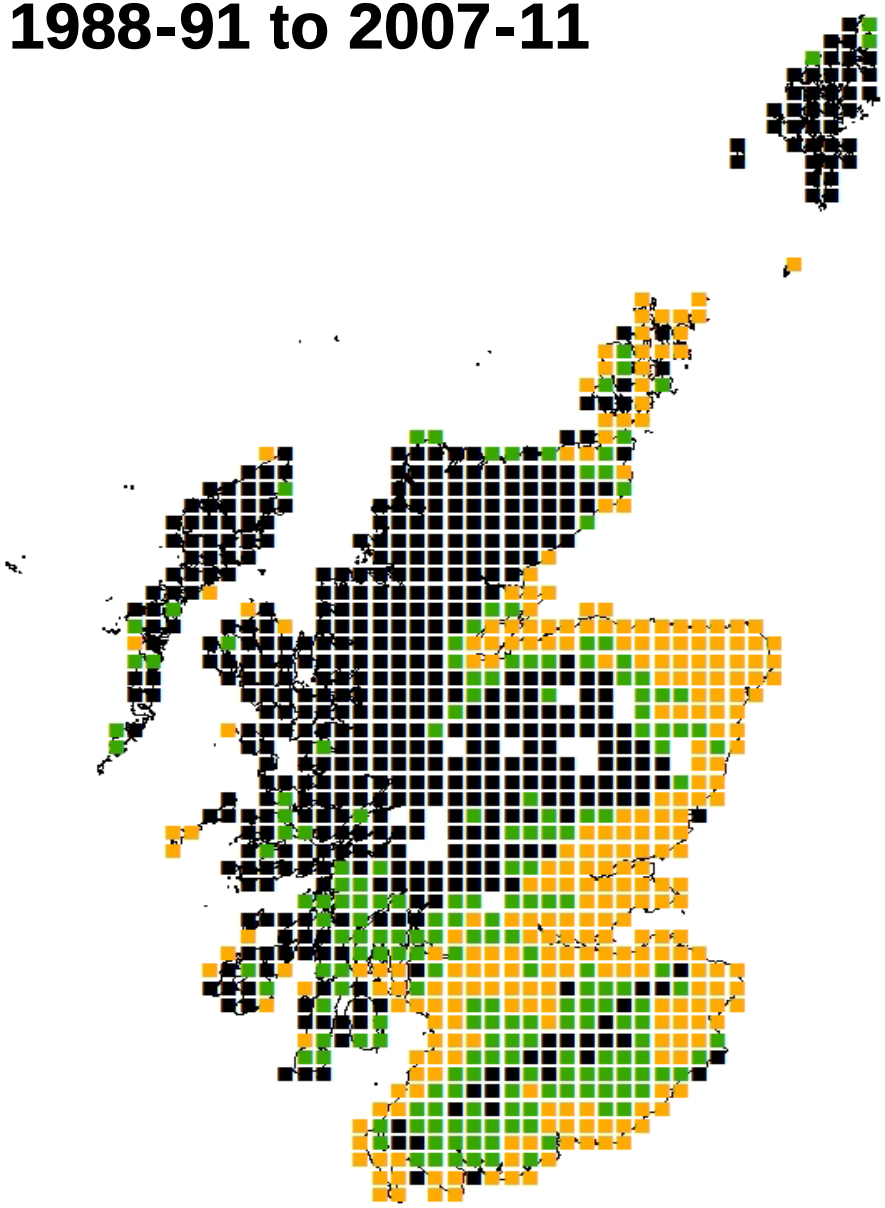






	Range change (atlas)	Abundance change (atlas)	Abundance change (BBS 1995-2016)
Oystercatcher	-1%	-2%	-38%*
Dotterel	-11%	-29%	
Golden Plover	-13%	-12%	-23%
Lapwing	-9%	-35%	-57%*
Dunlin	-19%	-8%	
Snipe	1%	-9%	26%
Curlew	-11%	-28%	-61%*
Common Sandpiper	-3%	-19%	-18%
Greenshank	6%	28%	
Redshank	-37%	-39%	

Changes in contrasting landscapes – Bird Atlas abundance 1988-91 to 2007-11

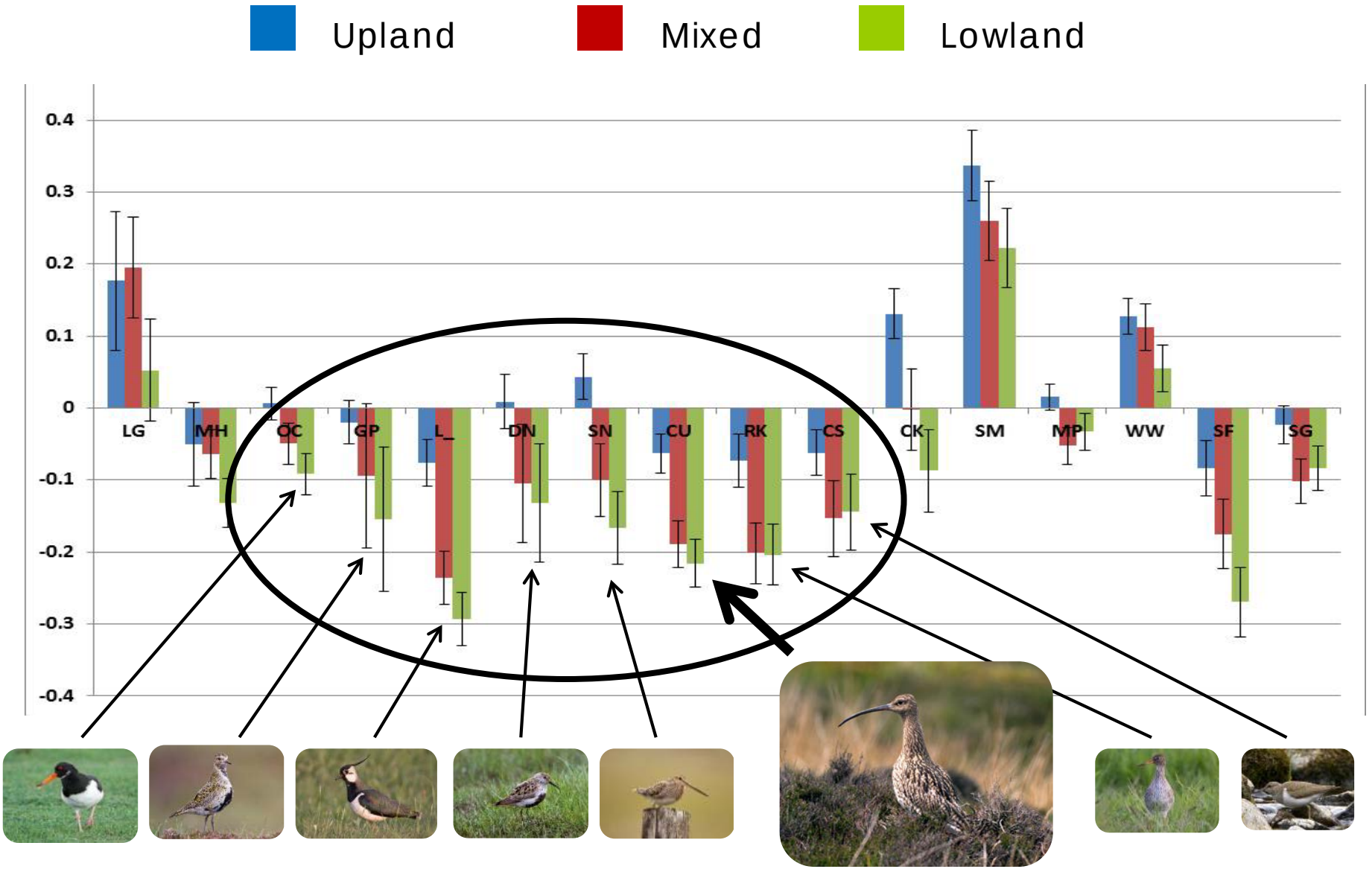


Upland

Mixed

Lowland

Changes in contrasting landscapes
Bird Atlas abundance change1988-91 to 2007-11



Drivers of change?

Understanding Predation project

Scotland's MOORLAND FORUM
Understanding Predation

- 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

BTO Looking out for birds
UNIVERSITY OF ABERDEEN
CEH Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
UNIVERSITY OF STIRLING
Scottish Natural Heritage All of nature for all of Scotland

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

	Science review	Stakeholders using mostly 'Local Knowledge'	Stakeholders using mostly 'Scientific Knowledge'
	Ranked 1 Habitat change Ranked 2 Predation	Predation Habitat change	Habitat change Predation
	Ranked 1 Habitat change Ranked 2 Agrochemicals	Predation Habitat change	Habitat change Agrochemicals
	Ranked 1 Habitat change Ranked 2 Predation	Predation Habitat change	Habitat change Predation
	Ranked 1 Habitat change Ranked 2 Predation / Food / Grazing	Predation Habitat change	Habitat change Predation
	Ranked 1 Predation Ranked 2 Habitat change	Predation Habitat change	Habitat change Predation
	Ranked 1 Habitat / Predation / Climate Ranked 2 Food	Predation Habitat change	Habitat change Predation

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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

Variable	Effect on curlew abundance or population change
Arable farming	–
Forest cover	–
Semi-natural grassland	+
Warmer and drier summer weather	–
Crow & fox abundance	–
Gamebird abundance	+
Strip burning	–





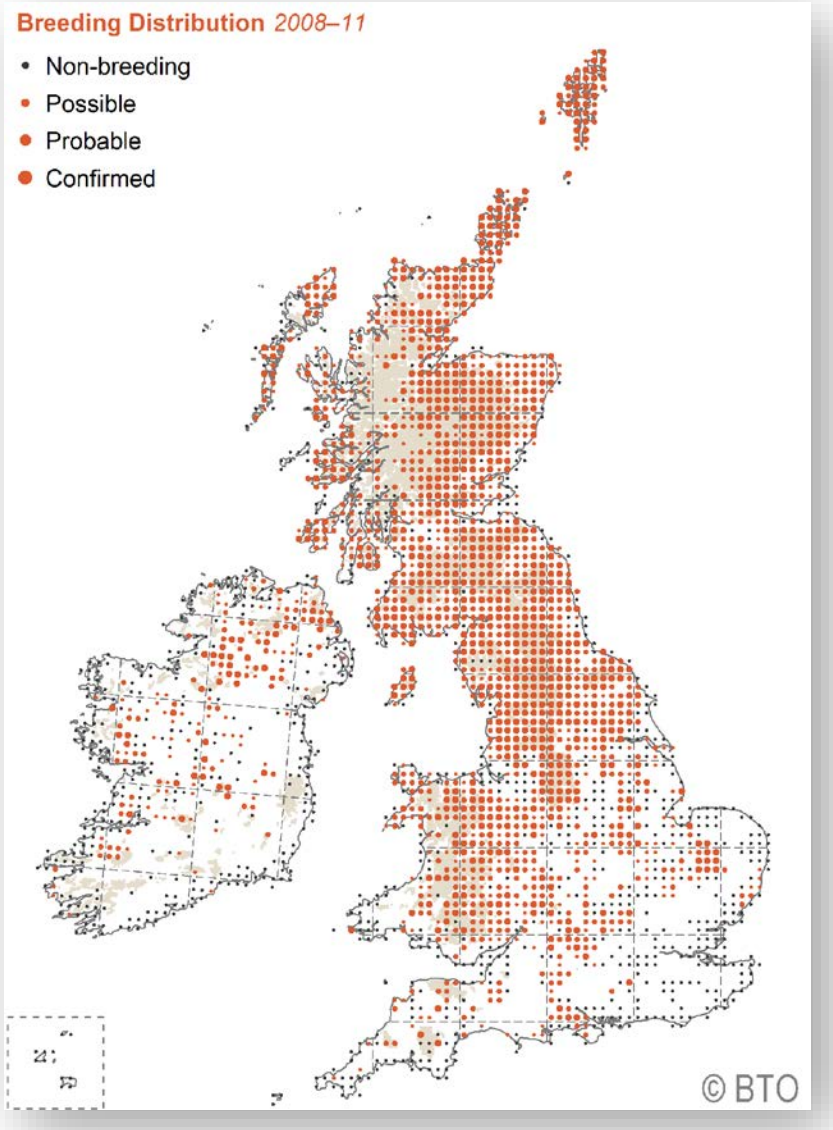


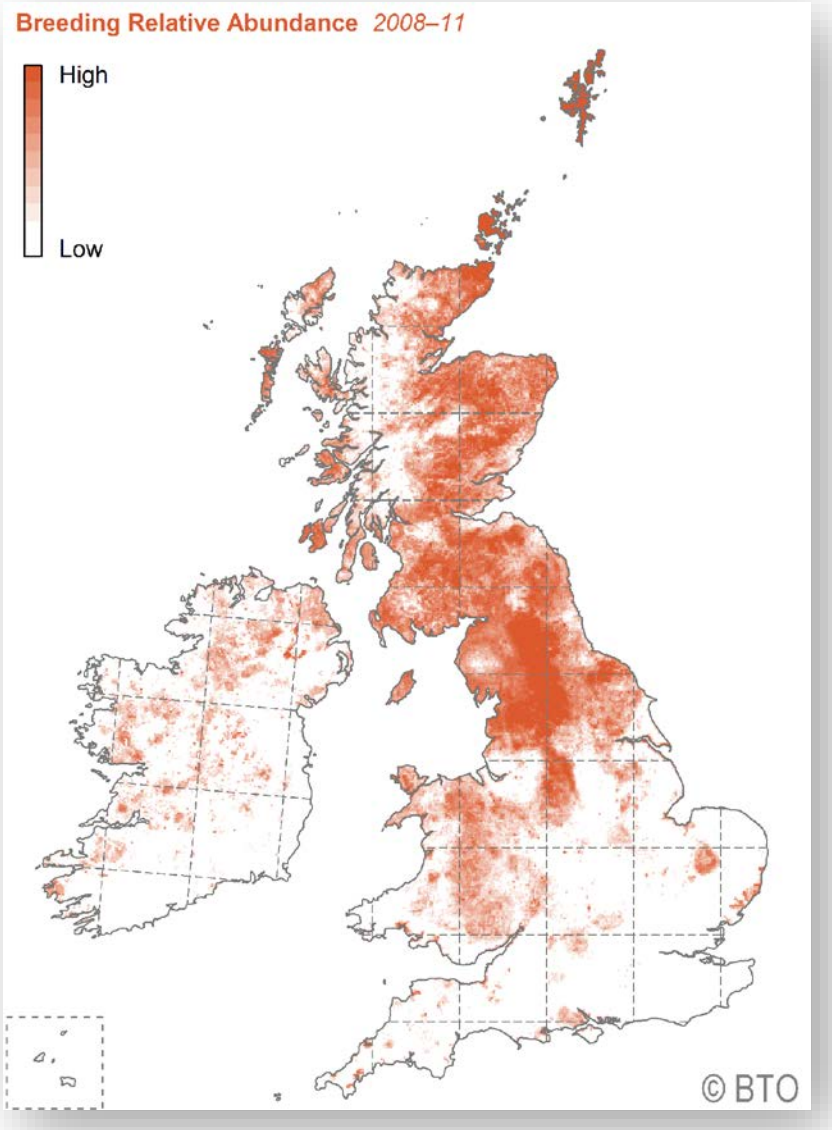
Franks *et al. 2017 Bird Study*

Border et al. In prep.

Curlew

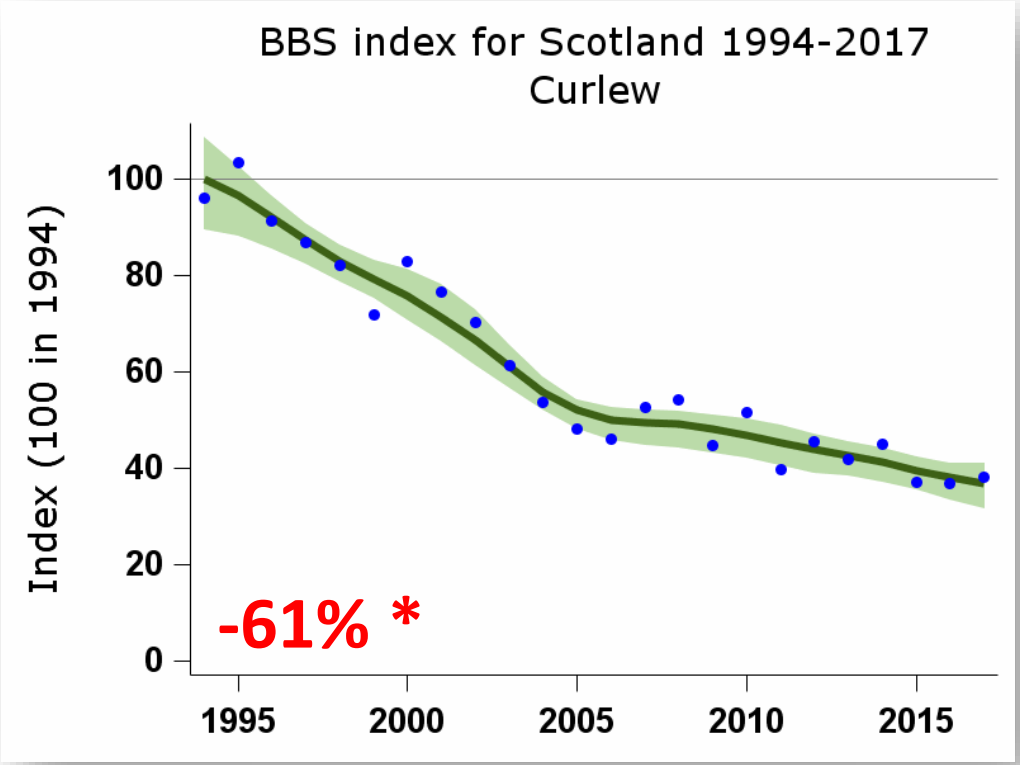
Current status (Bird Atlas 2007-11) – not all bad news . . .

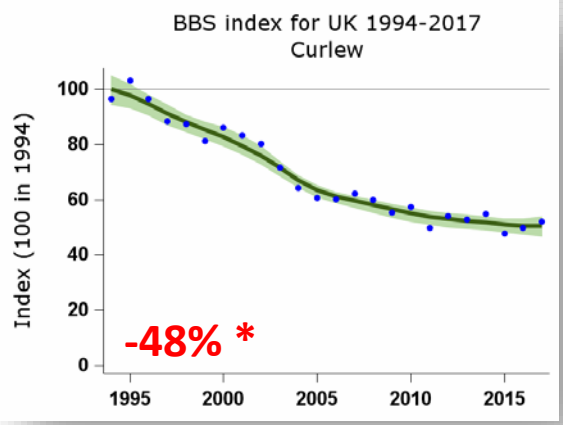


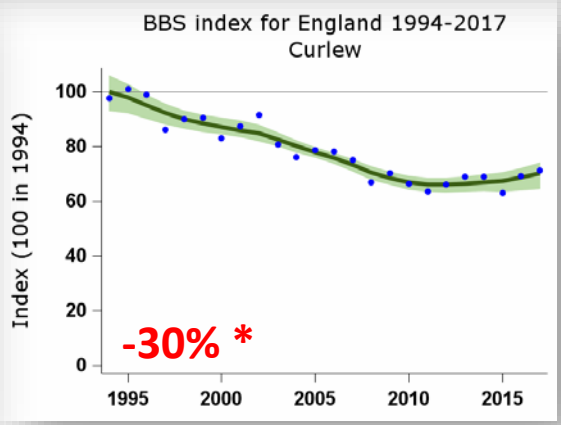


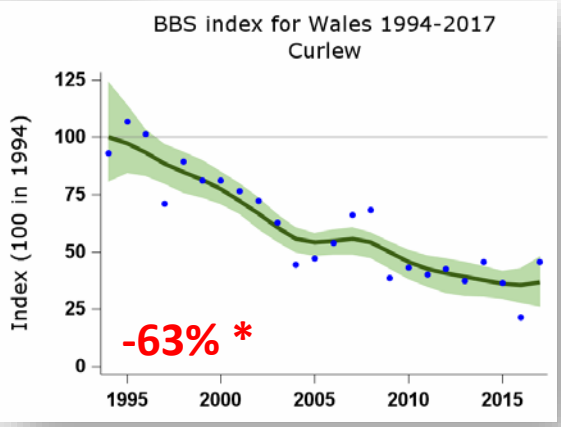

BTO
Looking out for birds

Curlew breeding abundance from BBS 1994-2017









Results – drivers of population change

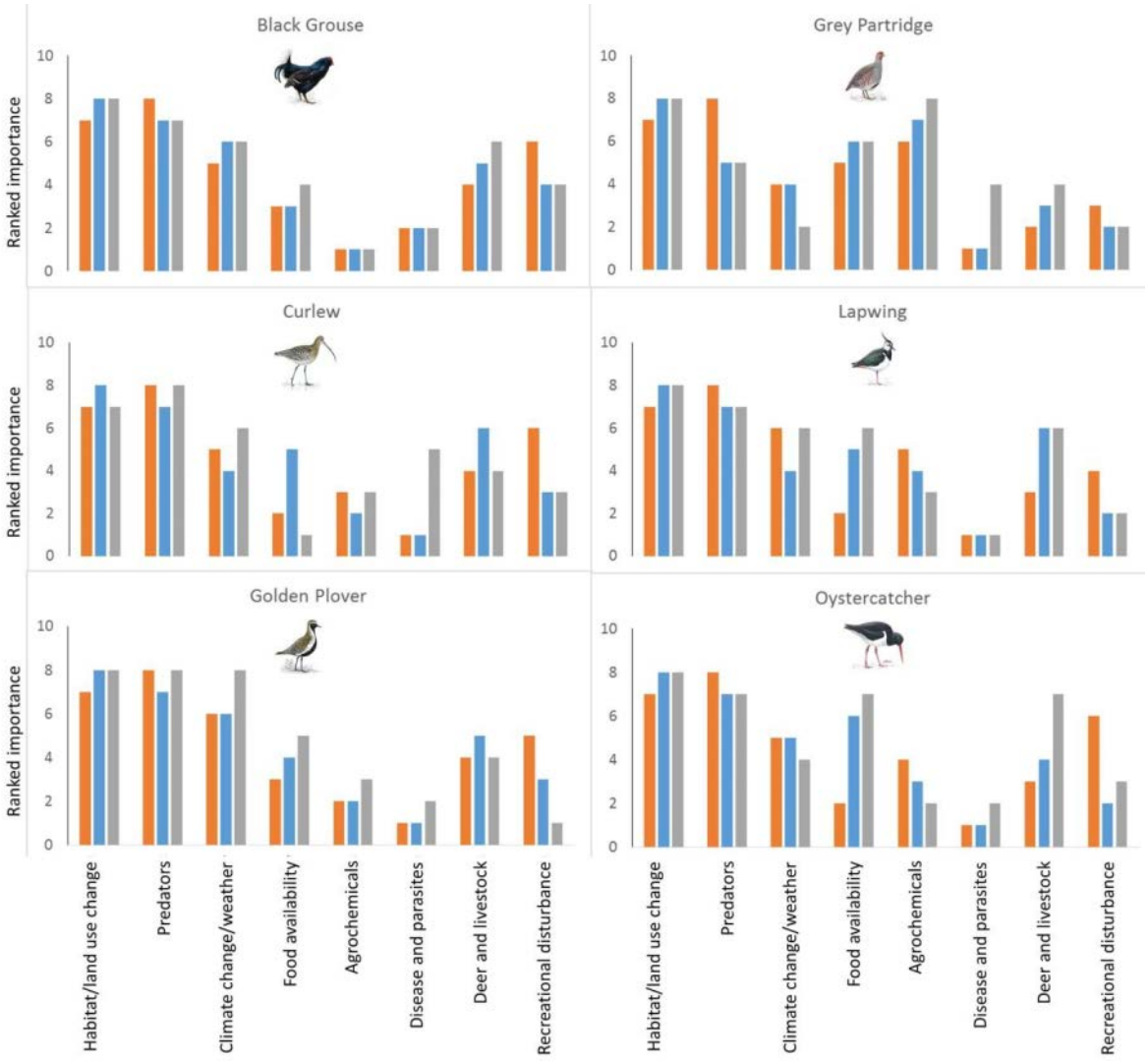


Figure 4. Comparison of the Local Knowledge (orange bars) and Scientific Knowledge (blue bars) respondents (n=321) and scientific literature (grey bars) on the ranked importance (where the rank of 8 is given to the most important driver and 1 to the least important) of human and environmental drivers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