

*Refertilising Wester Ross workshops*

7<sup>th</sup> - 9<sup>th</sup> April 2016 Gairloch Community Hall, Wester Ross



# What future for our hill farming and crofting systems?

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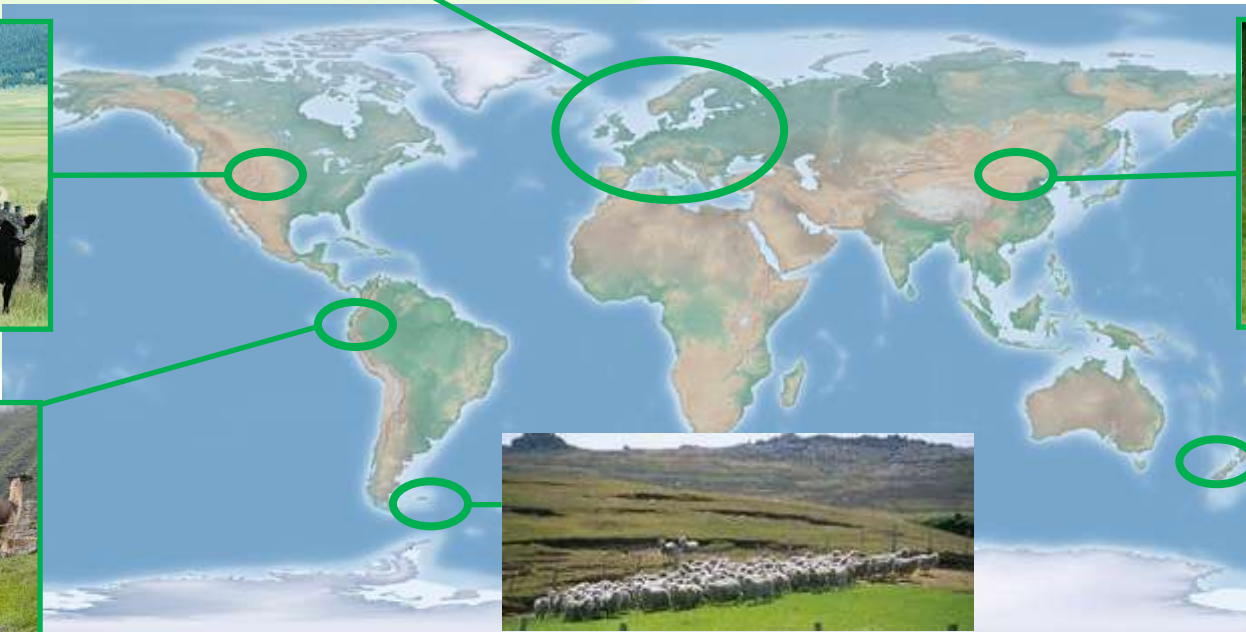


*Leading the way in Agriculture and Rural Research, Education and Consulting*

# Scotland: the globe in miniature



Similar climatic, agricultural and/or environmental challenges also facing other farming systems

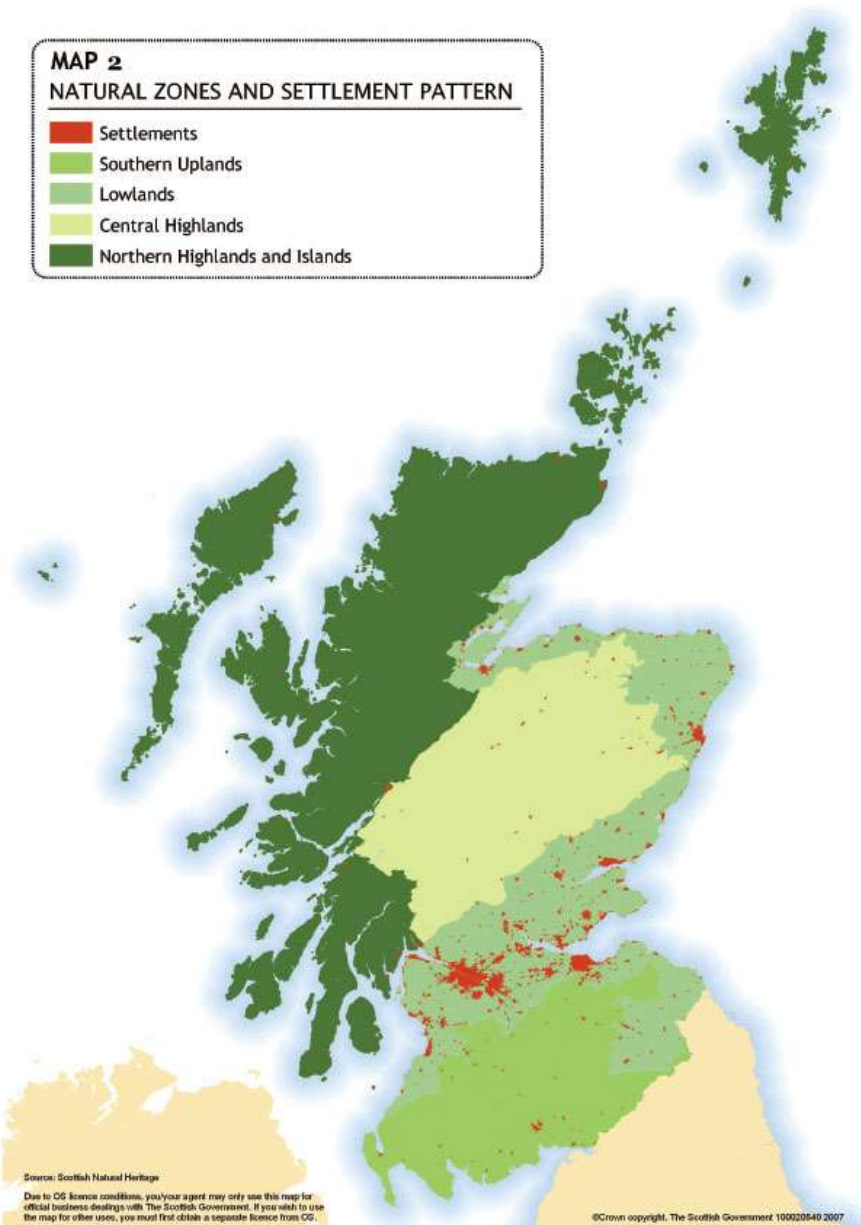


# The uplands of Scotland:



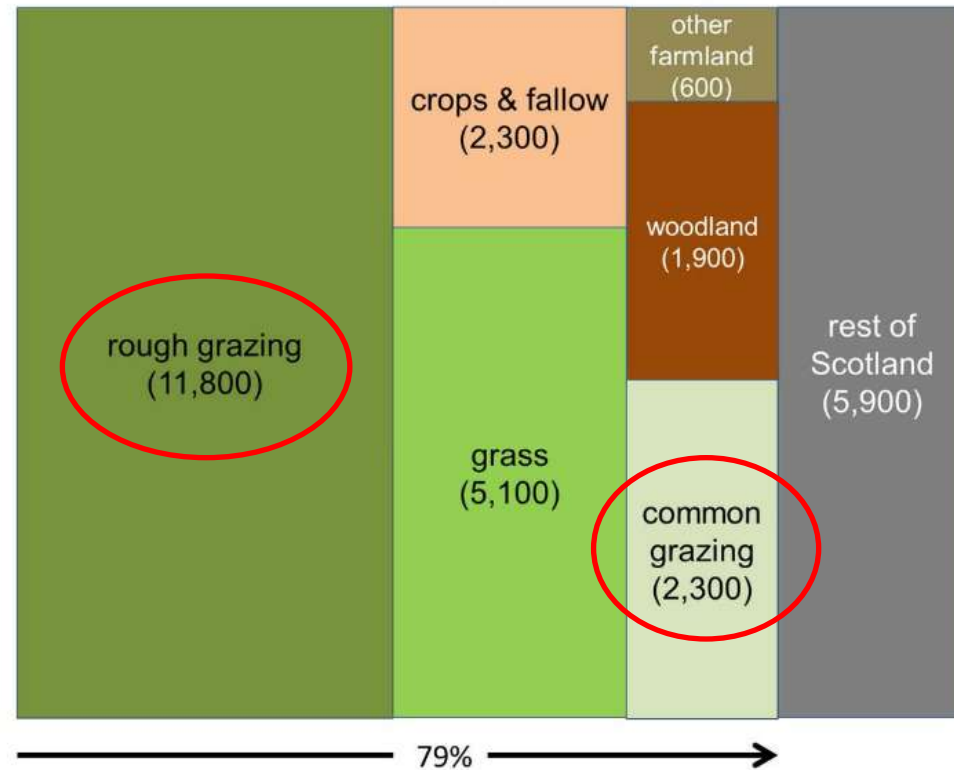
MAP 2  
NATURAL ZONES AND SETTLEMENT PATTERN

- Settlements
- Southern Uplands
- Lowlands
- Central Highlands
- Northern Highlands and Islands



Agricultural land accounts for 79% of Scotland's land area

area of Scotland (in square miles)

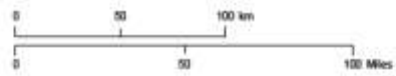


8% of Scotland's agricultural land is suitable for arable farming, with nearly 70% deemed of severely limited agricultural use (rough and common grazing)

Source: Scottish Natural Heritage  
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## EUNIS Land Cover of Scotland

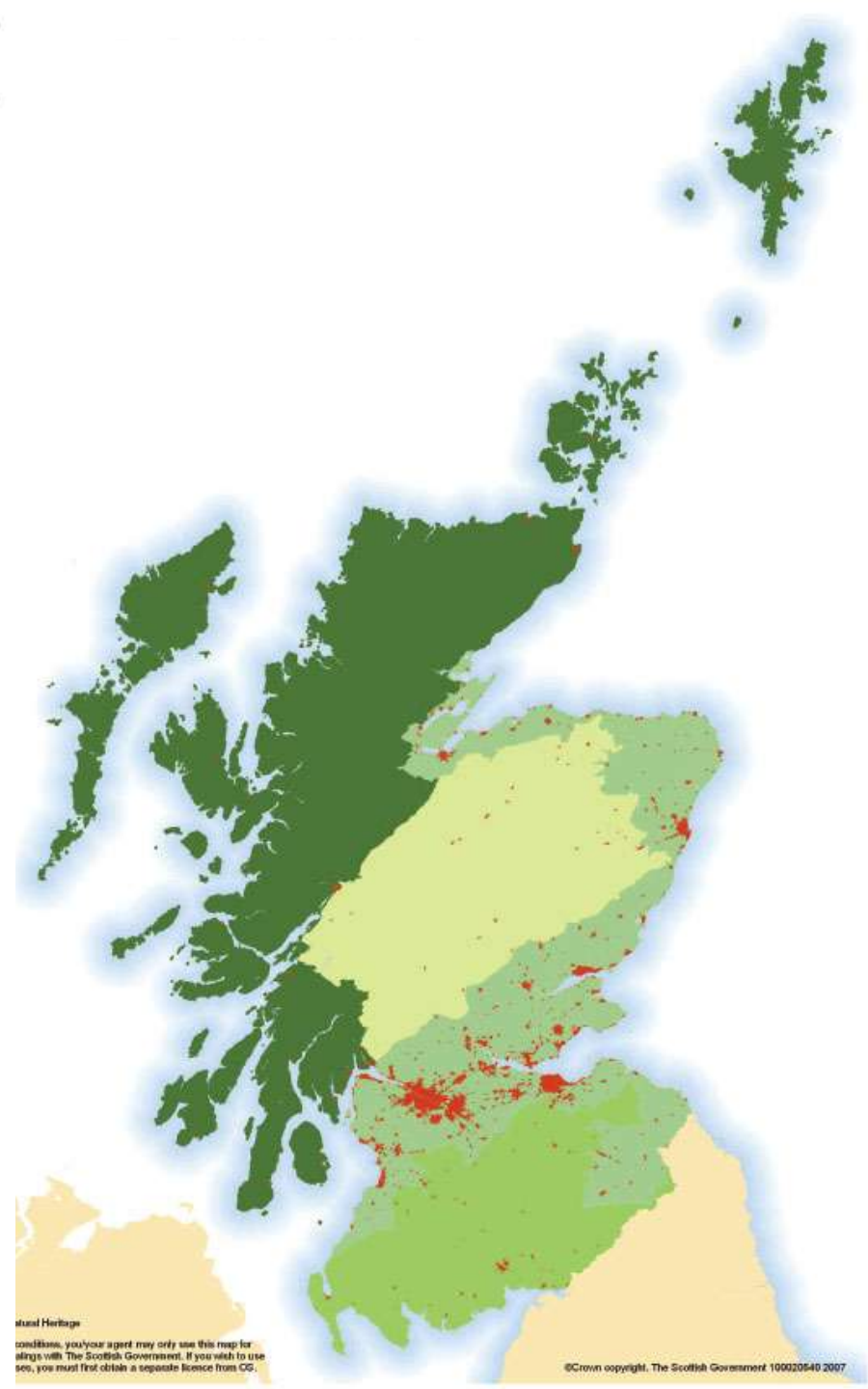
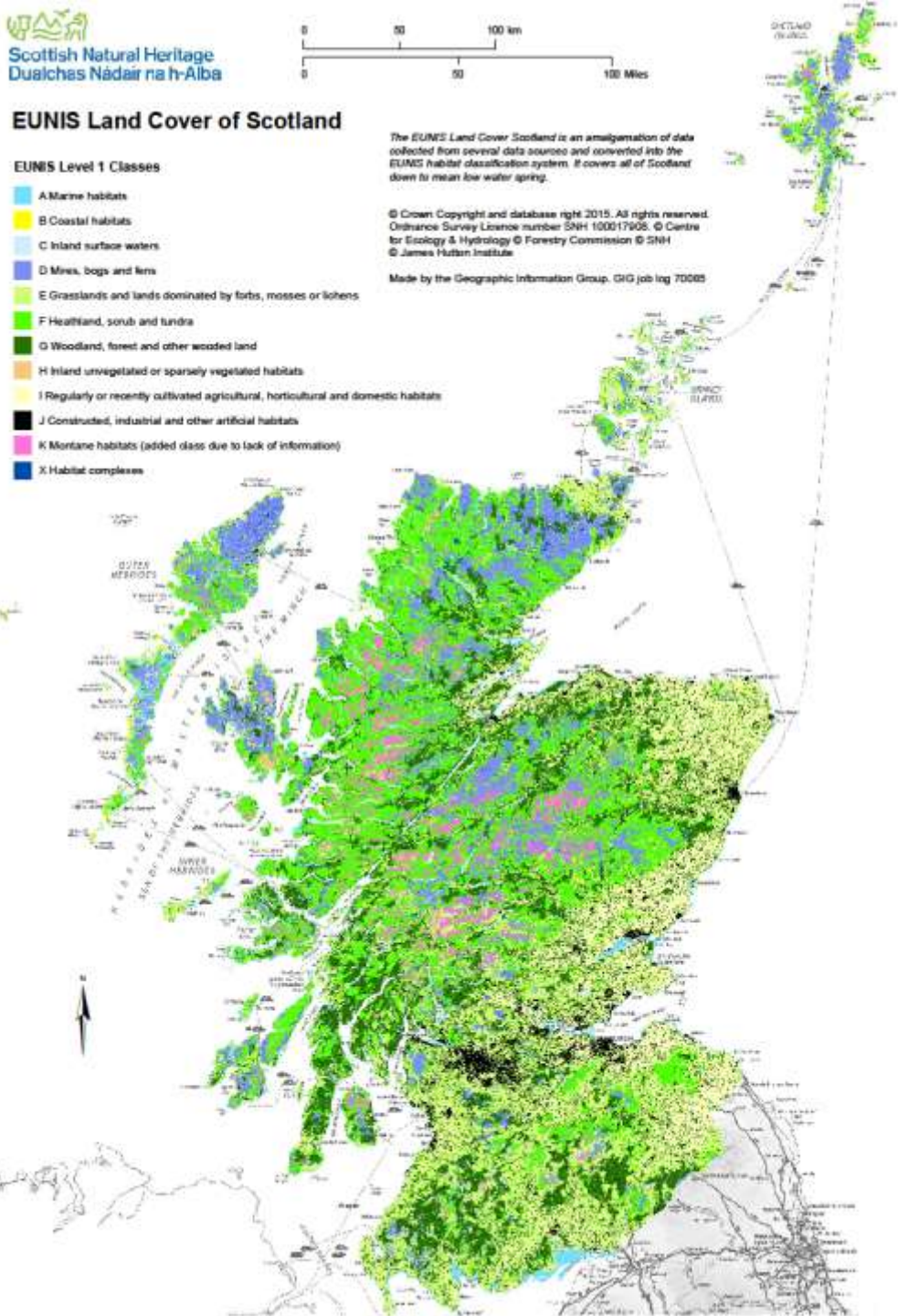
### EUNIS Level 1 Classes

- A Marine habitats
- B Coastal habitats
- C Inland surface waters
- D Mires, bogs and fens
- E Grasslands and lands dominated by forbs, mosses or lichens
- F Heathland, scrub and tundra
- G Woodland, forest and other wooded land
- H Inland unvegetated or sparsely vegetated habitats
- I Regularly or recently cultivated agricultural, horticultural and domestic habitats
- J Constructed, industrial and other artificial habitats
- K Montane habitats (added class due to lack of information)
- X Habitat complexes

The EUNIS Land Cover Scotland is an amalgamation of data collected from several data sources and converted into the EUNIS habitat classification system. It covers all of Scotland down to mean low water spring.

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Scottish Natural Heritage  
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# SE Web Mountains & Uplands



## State and trend

**State:** Moderate - high agreement, low evidence

**Trend:** Stable/declining - high agreement, low evidence

There is an explanation of the diagram and further information on how we carried out the assessments on the [summary pages](#).

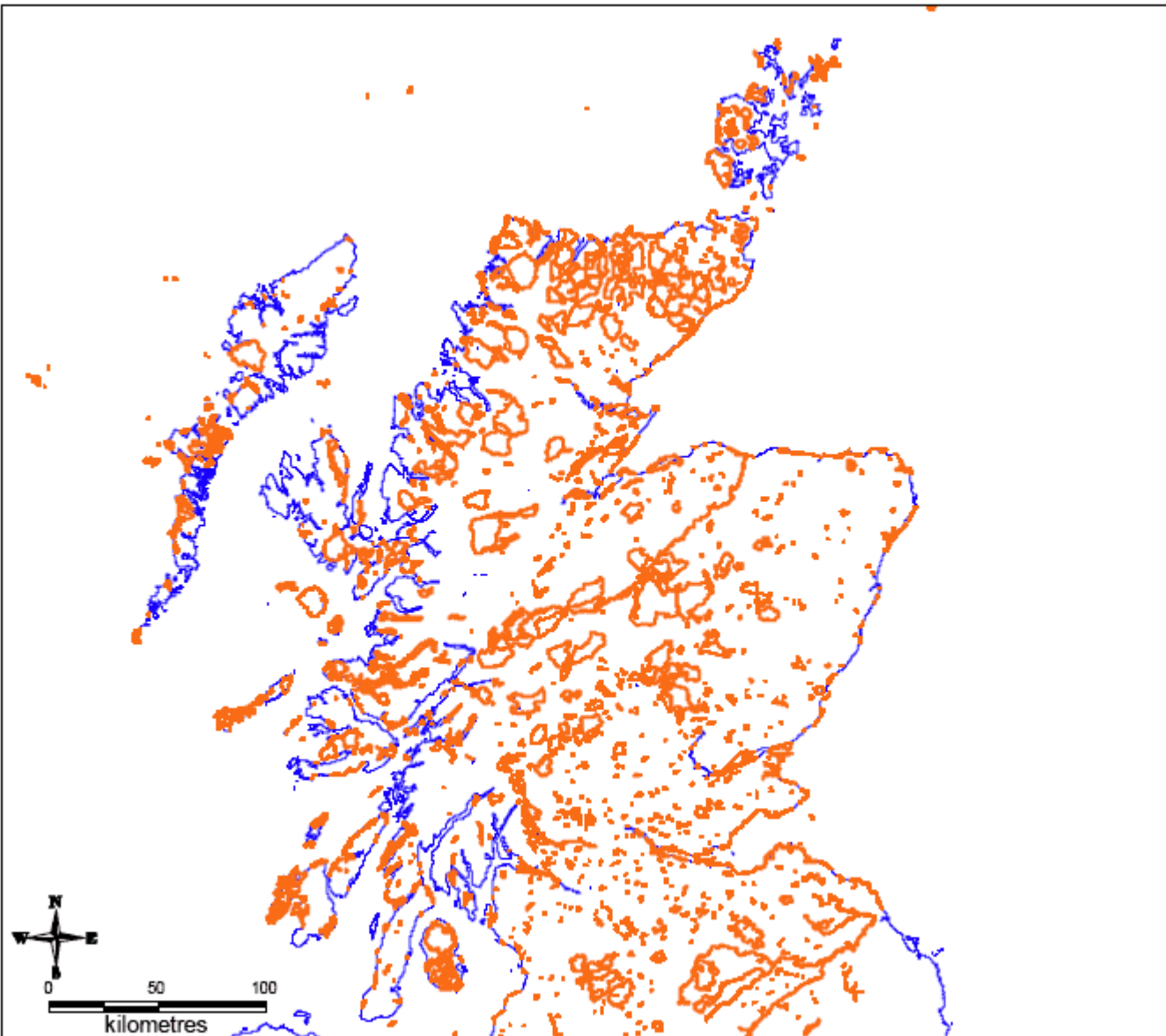
- Assessments are of the current “average condition”; some habitats and species are in a poorer condition, and others are in a better one.
- Making any overall assessment is necessarily a simplification.
- The assessment covers the wildlife of mountains and uplands, excluding forestry. This assessment covers areas such as the Cairngorms, the Ochil Hills and the Pentlands.
- We have taken account of the scale of any damage to the environment in these assessments; impacts can be locally damaging, but may have little effect on a national scale.
- We have stated how confident we are in the assessments based on the level of agreement between the specialists involved, and the quality and quantity of the supporting evidence.
- The evidence base is low, as there are relatively few monitoring sites covering the extensive upland areas.



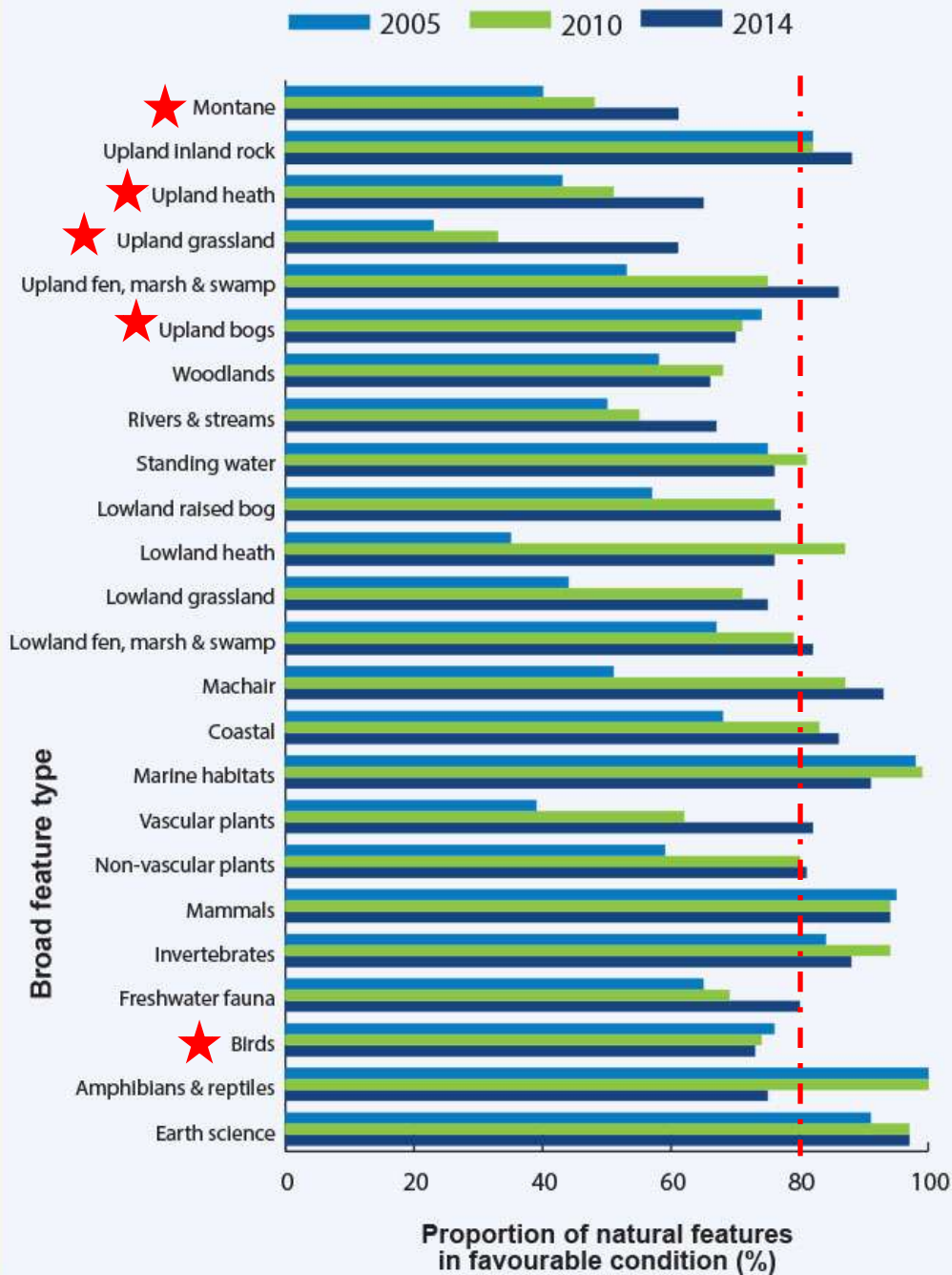
# Environmental condition of the uplands



Protected areas (e.g. SSSIs) versus wider countryside







Results of site condition monitoring for a range of features in the Scottish uplands (SE Web June 2014)



# Wider countryside: overall status and river quality (data 2012)

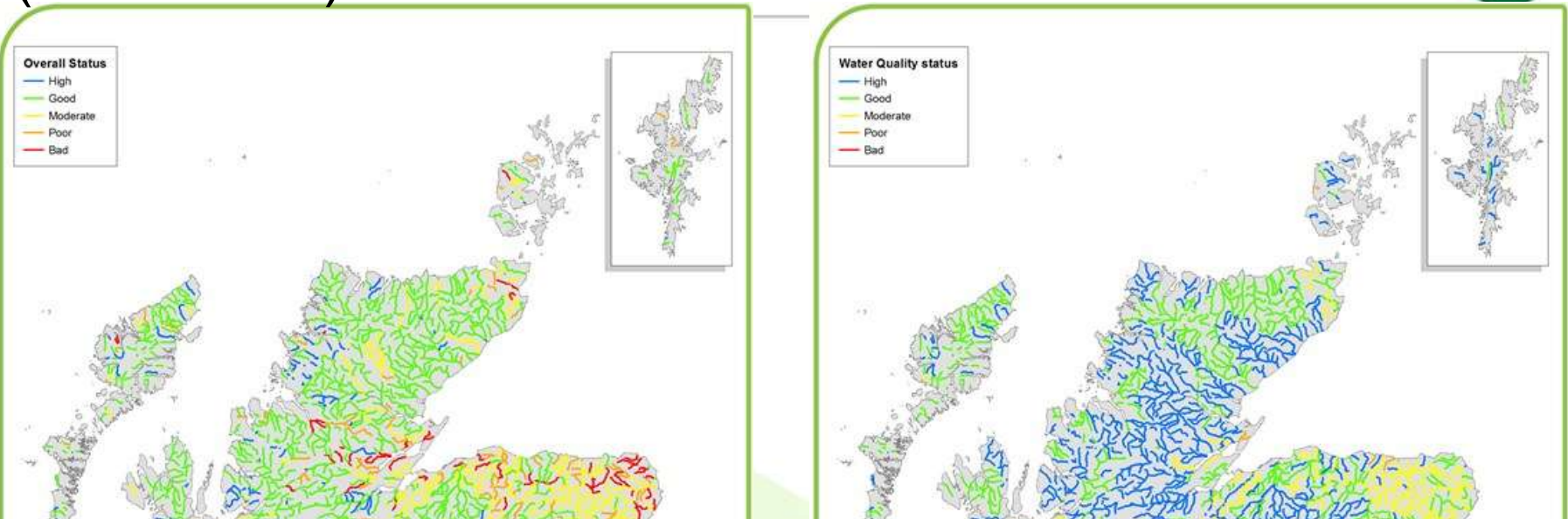
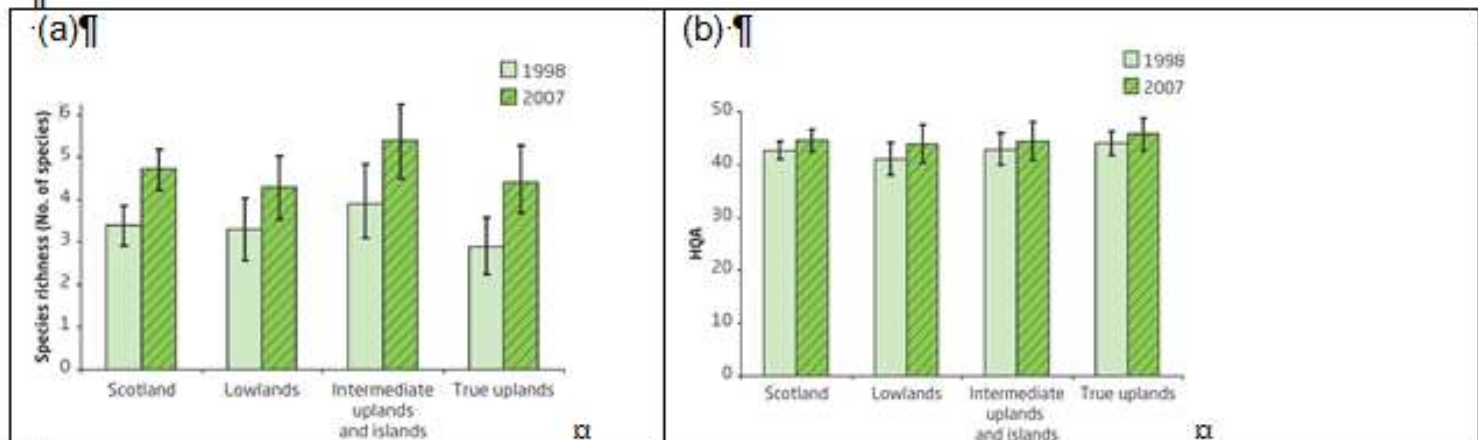


Figure 2. Countryside Survey 2007 results of headwater stream (a) aquatic plant species richness and (b) Habitat Quality Assessment (HQA). Means for 1998 and 2007 are provided for all samples taken across Scotland and for those within each of the three Environmental Zones recognised by the Countryside Survey. 95% confidence intervals are shown for each data point.





# Wider countryside: native woodlands (NWS 2014)

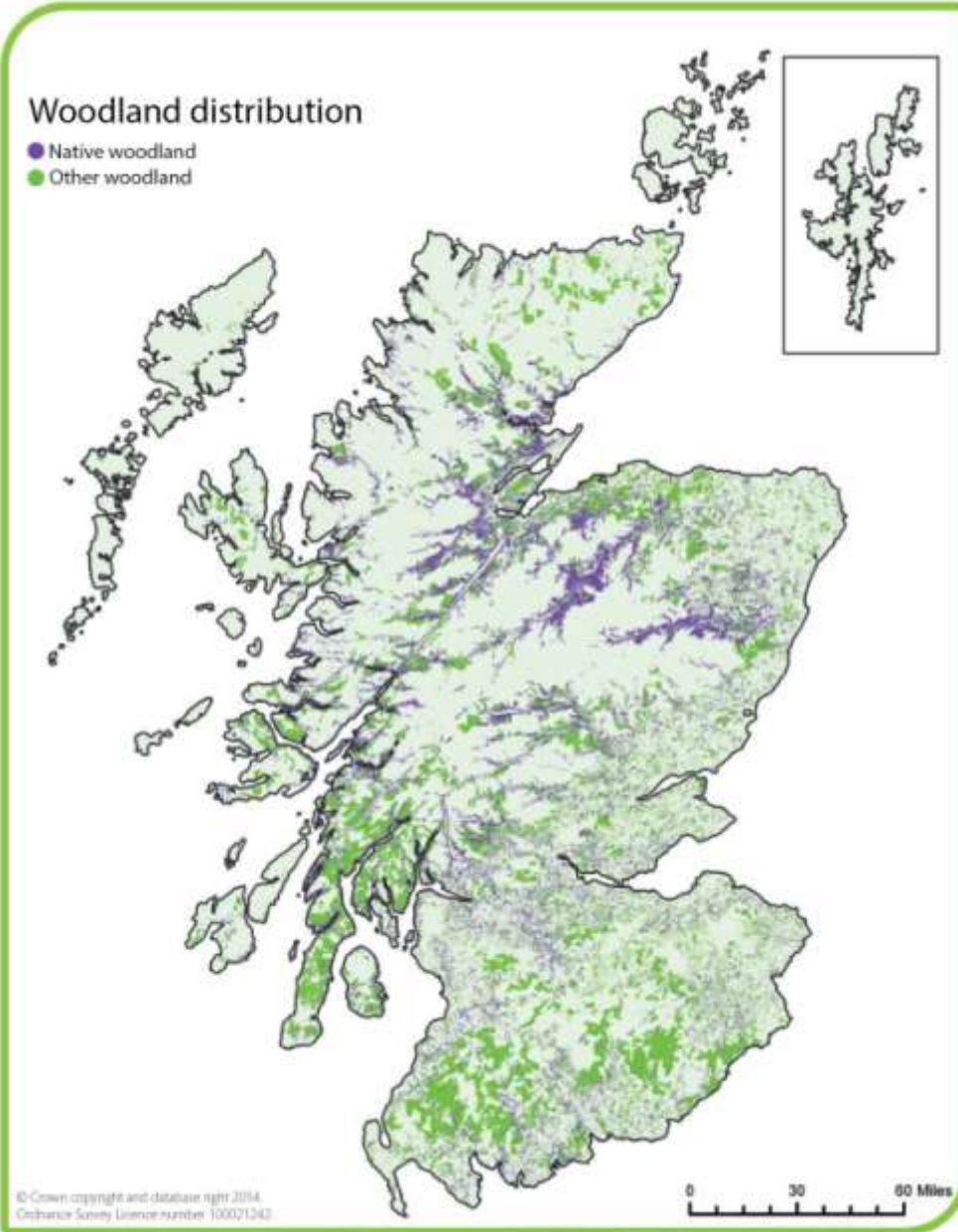


In 2014:

Upland native woodland  
& scrub = 120,000 ha  
[commercial coniferous  
woodland = 1.1 million ha]

14% loss in native  
woodlands over 40  
years, mostly in uplands

Less than 50% in  
satisfactory condition for  
biodiversity – grazing  
and browsing main  
threat



# Wider countryside: peatlands

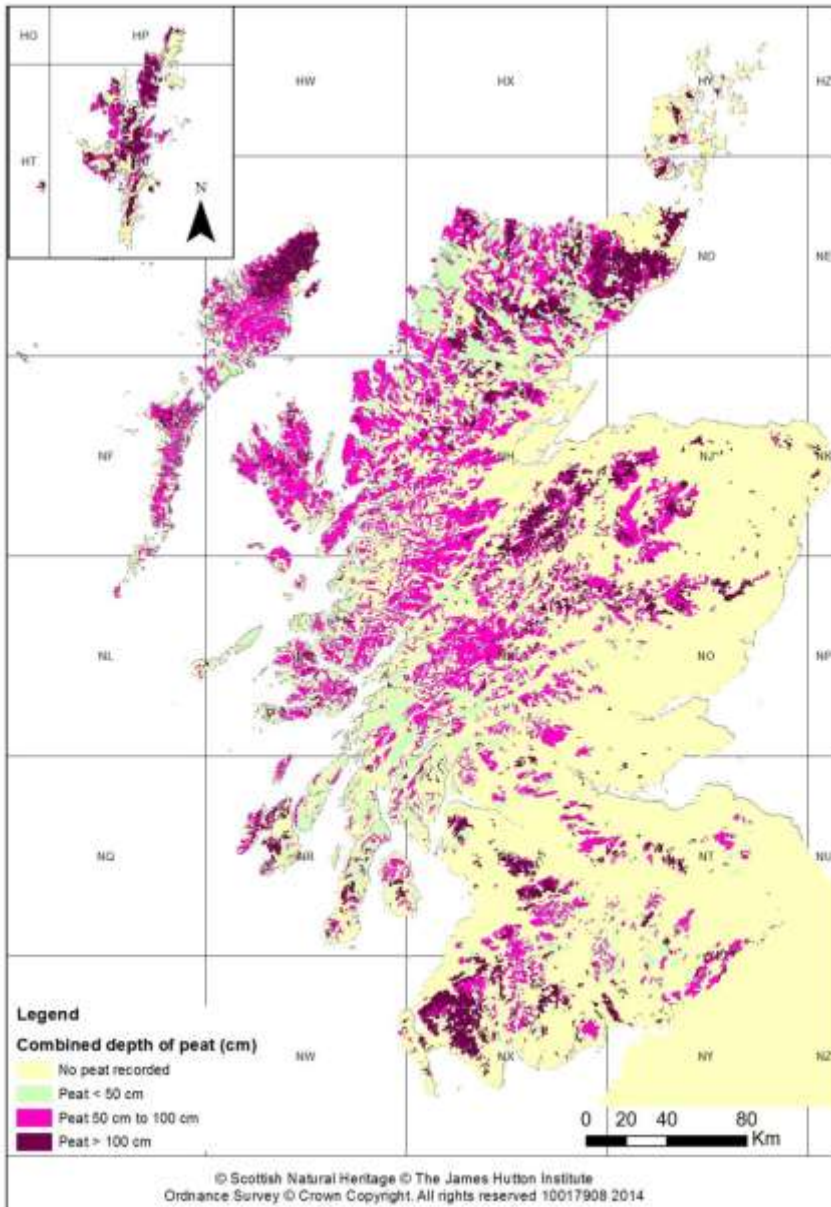


Extent in uplands stable but some decreases in plant species richness and many emitting rather than sequestering carbon



Table 8. Countryside Survey data for Scotland, showing Broad Habitat extent. (Extract from Countryside Survey – Scotland results from 2007- chapter 7)

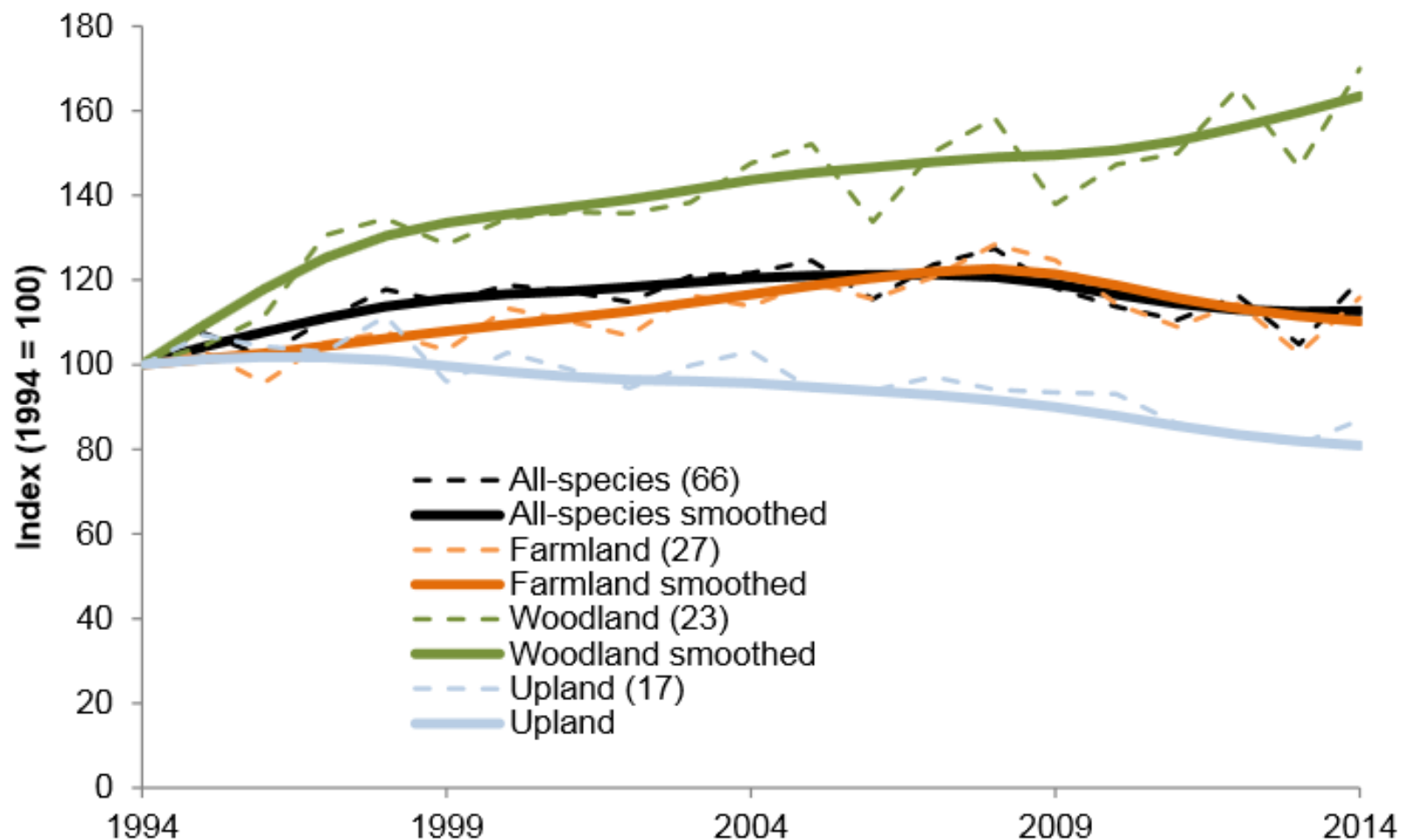
	1990 Area ('000s ha)	1998 Area ('000s ha)	2007 Area ('000s ha)	Direction of significant trends 1998-2007
<b>BH – Fens, marsh and swamp</b>				
Total Scotland	289	261	238	NO SIGNIFICANT CHANGE
EZ4 (Lowlands)	58	72	71	
EZ5( Intermediate Uplands and Islands)	151	109	95	
EZ6 (true Upland)	80	80	72	
<b>BH – Bog</b>				
Total Scotland	1,922	2,039	2,044	DECREASING
EZ4 (Lowlands)	158	160	156	
EZ5( Intermediate Uplands and Islands)	832	872	890	
EZ6 (true Upland)	932	1,006	998	



# Wider countryside: upland birds (SNH, BTO)



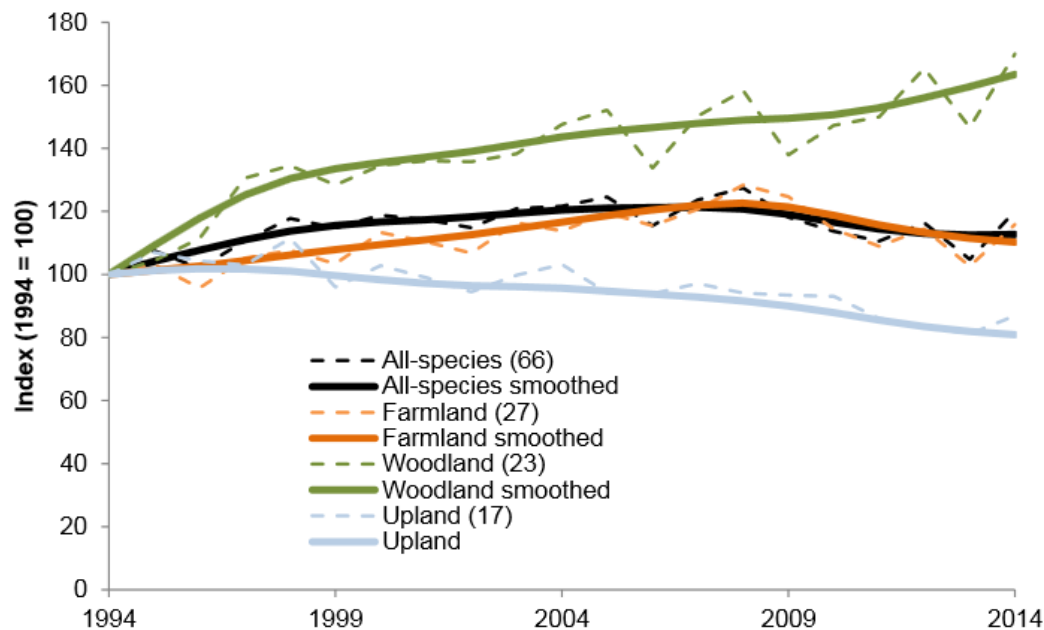
**Index of Abundance for Scottish Terrestrial Breeding Birds, 1994 to 2014**  
*Breeding Bird Survey and targeted survey scheme data for 66 breeding bird species*





# Wider countryside: birds

*Index of Abundance for Scottish Terrestrial Breeding Birds, 1994 to 2014*  
Breeding Bird Survey and targeted survey scheme data for 66 breeding bird species



## 1994-2014

### Increasing:

- Raven (+92%)
- Red Grouse (+22%)
- Snipe (+21%)

### Declining

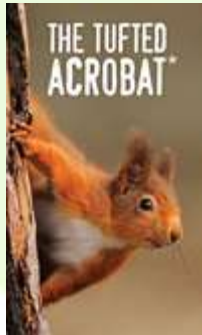
- Dotterel (-60%)
- Curlew (-49%)
- Black Grouse (-47%)
- Golden Plover (-33%)
- Hooded Crow (-32%)



# Farmland or 'wilderness' areas?

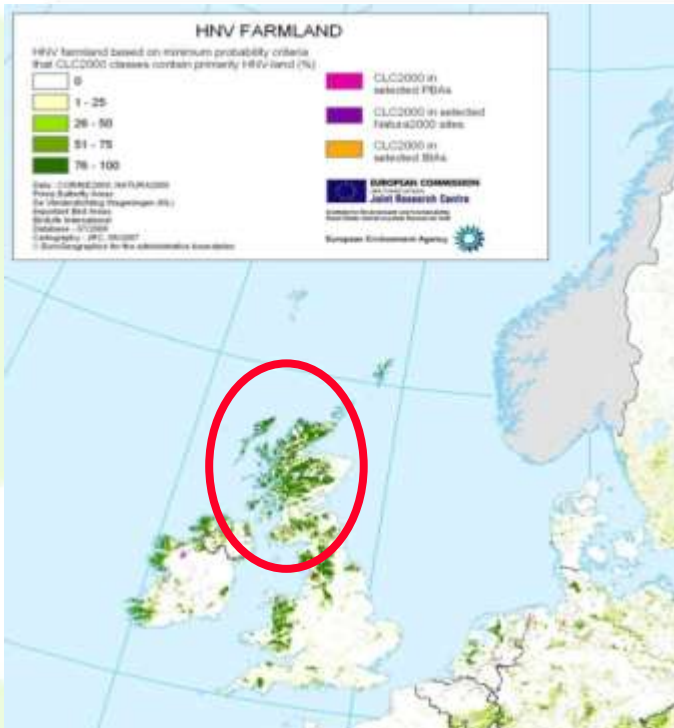


Year of  
Natural  
Scotland  
2013

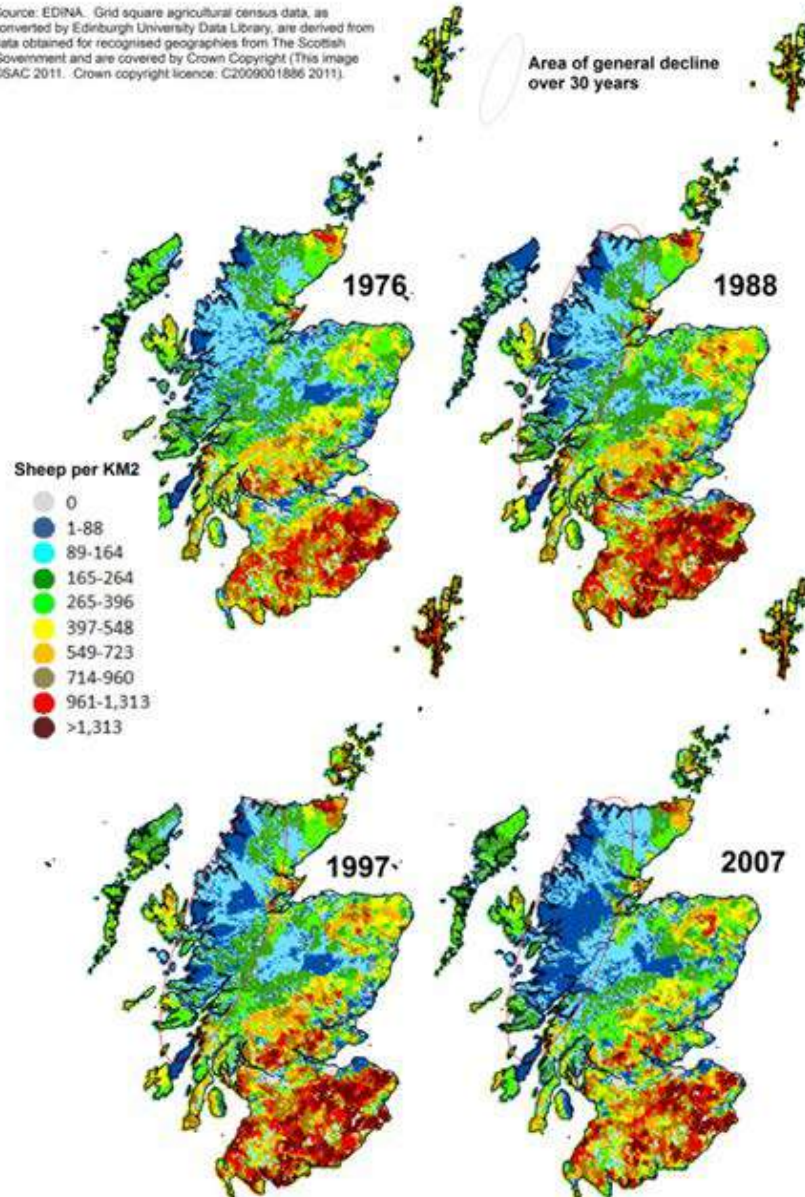
A blue logo for 'Year of Natural Scotland 2013' featuring a stylized flower or starburst shape with a long, curved stem.

Landscapes of economic, environmental  
and social/cultural importance **shaped by**  
**land use systems**

# Sheep per 2 km<sup>2</sup> over time:



Source: EDINA. Grid square agricultural census data, as converted by Edinburgh University Data Library, are derived from data obtained for recognised geographies from The Scottish Government and are covered by Crown Copyright (This image ©SAC 2011. Crown copyright licence: G200901886 2011).



Rural Policy Centre  
SAC

**Response from the hills:  
Business as usual or a turning point?**  
An update of "Retreat from the Hills"

Rural Policy Centre  
**Farming's  
Retreat  
from the  
Hills**

Author: Steven Prosser  
With contributions from:  
Agnieszka  
Paul  
& Clare  
November 2011



# Biodiversity impacts:



Scottish Natural Heritage  
Commissioned Report No. 454

An analysis of the impact on the natural heritage of the decline in hill farming in Scotland



Scottish Natural Heritage  
Commissioned Report No. 402

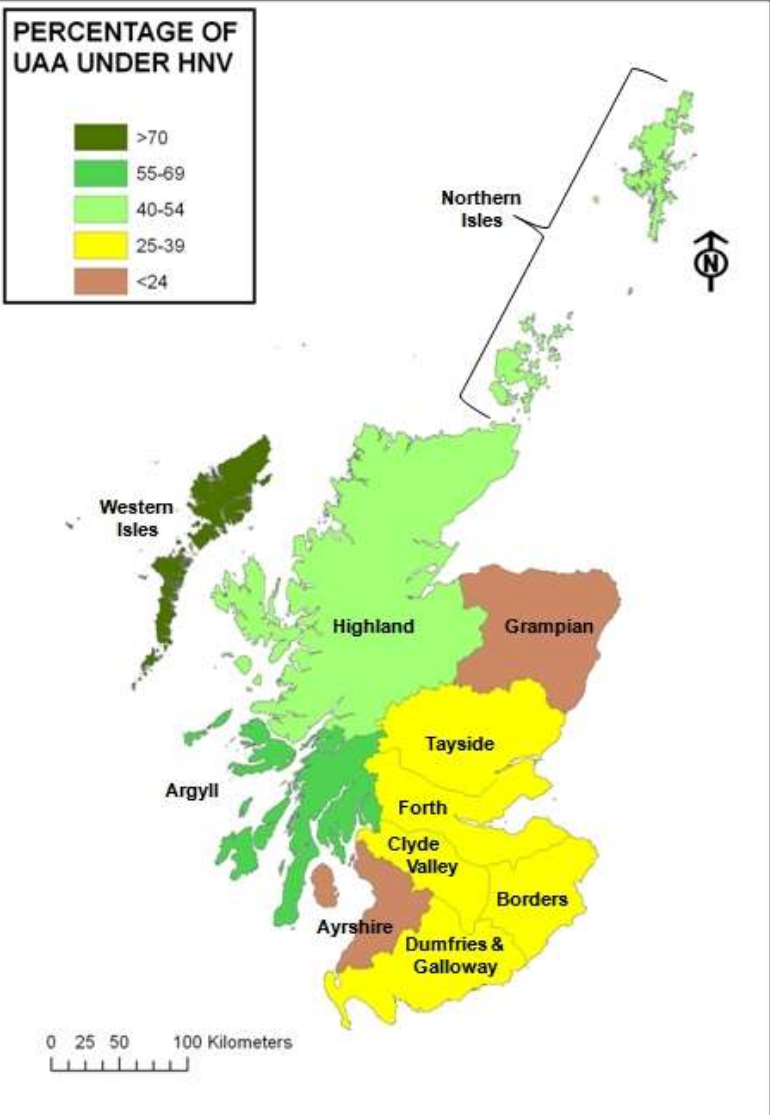
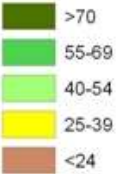
Developing guidance for managing extensive upland grazing where habitats have differing requirements



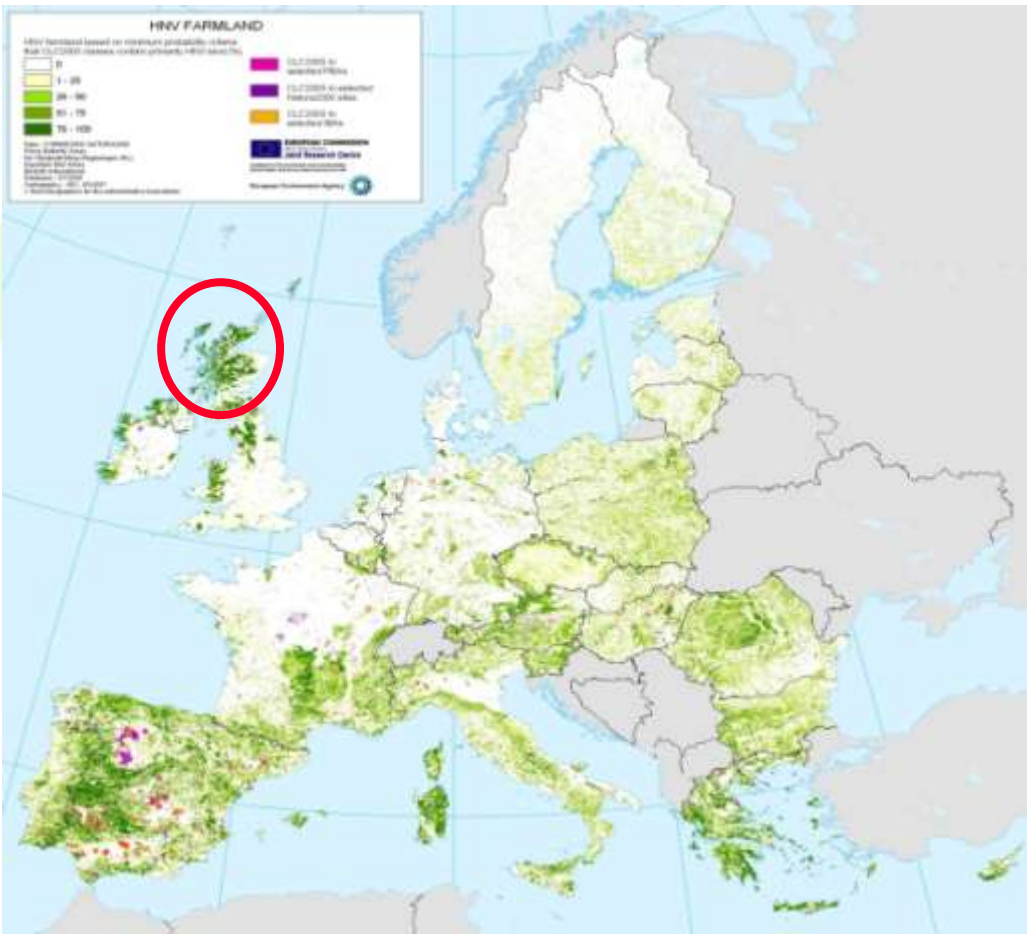
# Identification of HNV in Scotland



## PERCENTAGE OF UAA UNDER HNV



2010: 2.2 million ha (40%) of UAA in Scotland estimated to be under HNV farming systems [of which c. 592,000 ha common grazings]





# What future for upland farming & crofting?



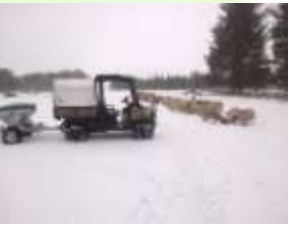


# What future for upland farming & crofting?



## Range of agricultural production challenges, e.g.:

- Low productivity
- Blackloss
- Poor nutrition
- Predation
- Pests and Disease
- Climate change



# What future for upland farming & crofting?

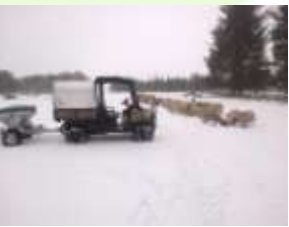


## Three overarching issues:

- Fragile economic viability
- Competition with other land uses
- Assumption rewilding good, farming bad

### Range of agricultural production challenges, e.g.:

- Low productivity
- Blackloss
  - Nutrition
  - Predation
  - Disease
- Climate change



# What future for hill farming & crofting?





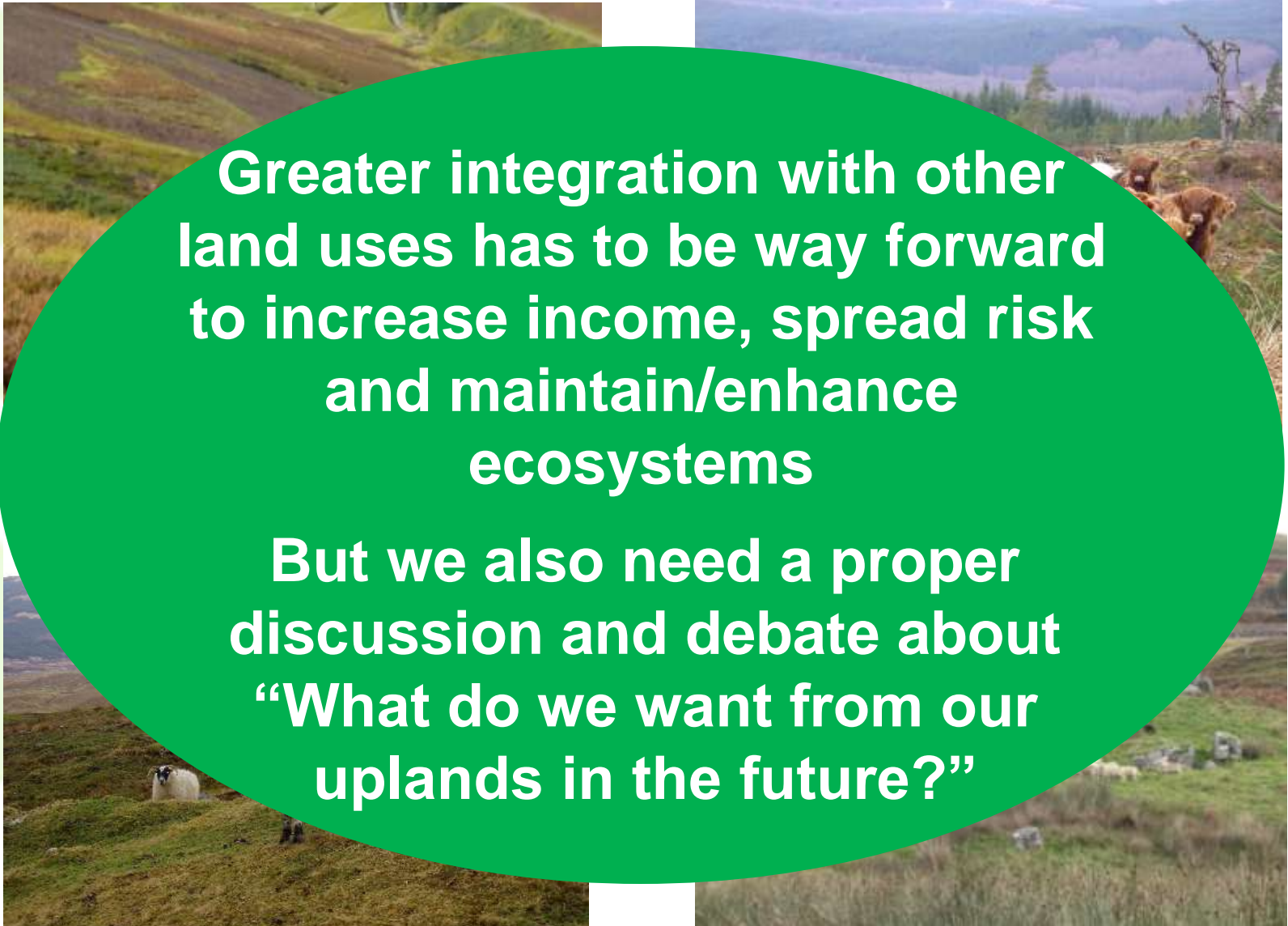
# What future for hill farming & crofting?

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**Greater integration with other land uses has to be way forward to increase income, spread risk and maintain/enhance ecosystems**

**But we also need a proper discussion and debate about “What do we want from our uplands in the future?”**





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