Symposium 24. HIGH NATURE VALUE FARMLAND: TOWARDS MORE EFFECTIVE CONSERVATION AND MONITORING OF BIODIVERSITY ACROSS EUROPEAN LANDSCAPES

***Ecology at the interface*: EEF/SITE conference 21-25 Sept 2015, Rome**

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Identifying and supporting High Nature Value farming systems: an overview

Davy McCracken davy.mccracken@sruc.ac.uk

Head of SRUC's Hill & Mountain Research Centre

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

Taking action for any element of biodiversity of concern involves:

- Recognising what the issues are
- Understanding the processes involved
- Raising awareness of the concern and the issues
- Ensuring they are a policy priority
- Identifying: how much, where and in what condition
- Developing and delivering appropriate funding mechanisms at relevant scale
- Monitoring outcomes and adapting the approach where necessary

Taking action for HNV farming systems:

- Recognising what the issues are
- Understanding the processes involved
- Raising awareness of the concern and the issues
- Ensuring they are a policy priority
- Identifying: how much, where and in what condition
- Developing and delivering appropriate funding mechanisms at relevant scale
- Monitoring outcomes and adapting the approach where necessary

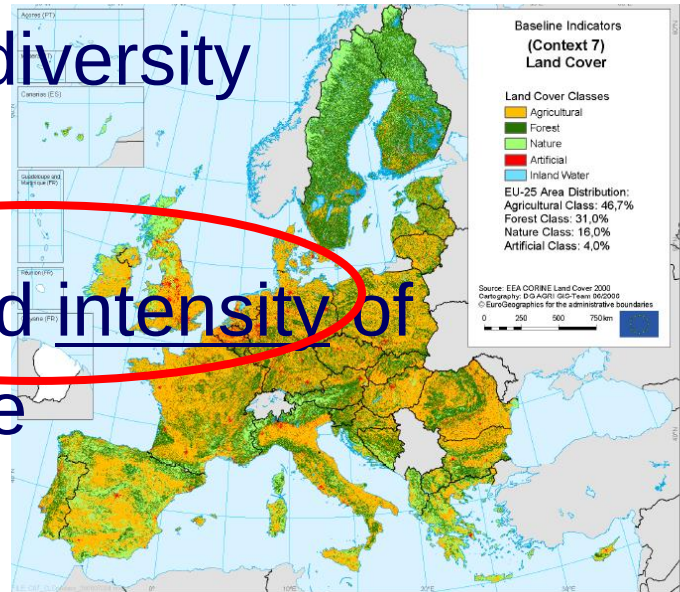
Farmland and biodiversity

- Over 40% (174 million ha) of EU28

- Recognised that habitats and landscapes of High Nature Value ARE intimately associated with farming practices
- Taking land out of agricultural production is not the answer for farmland biodiversity

RATHER

- it is essential to ensure type and intensity of farm management is appropriate



HNV Farmland Biodiversity: what is it in reality?

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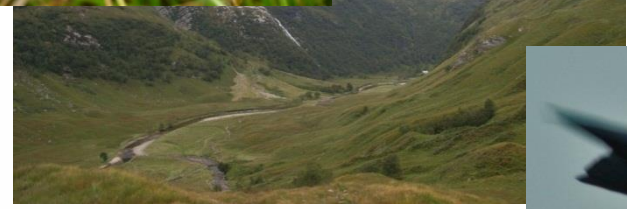
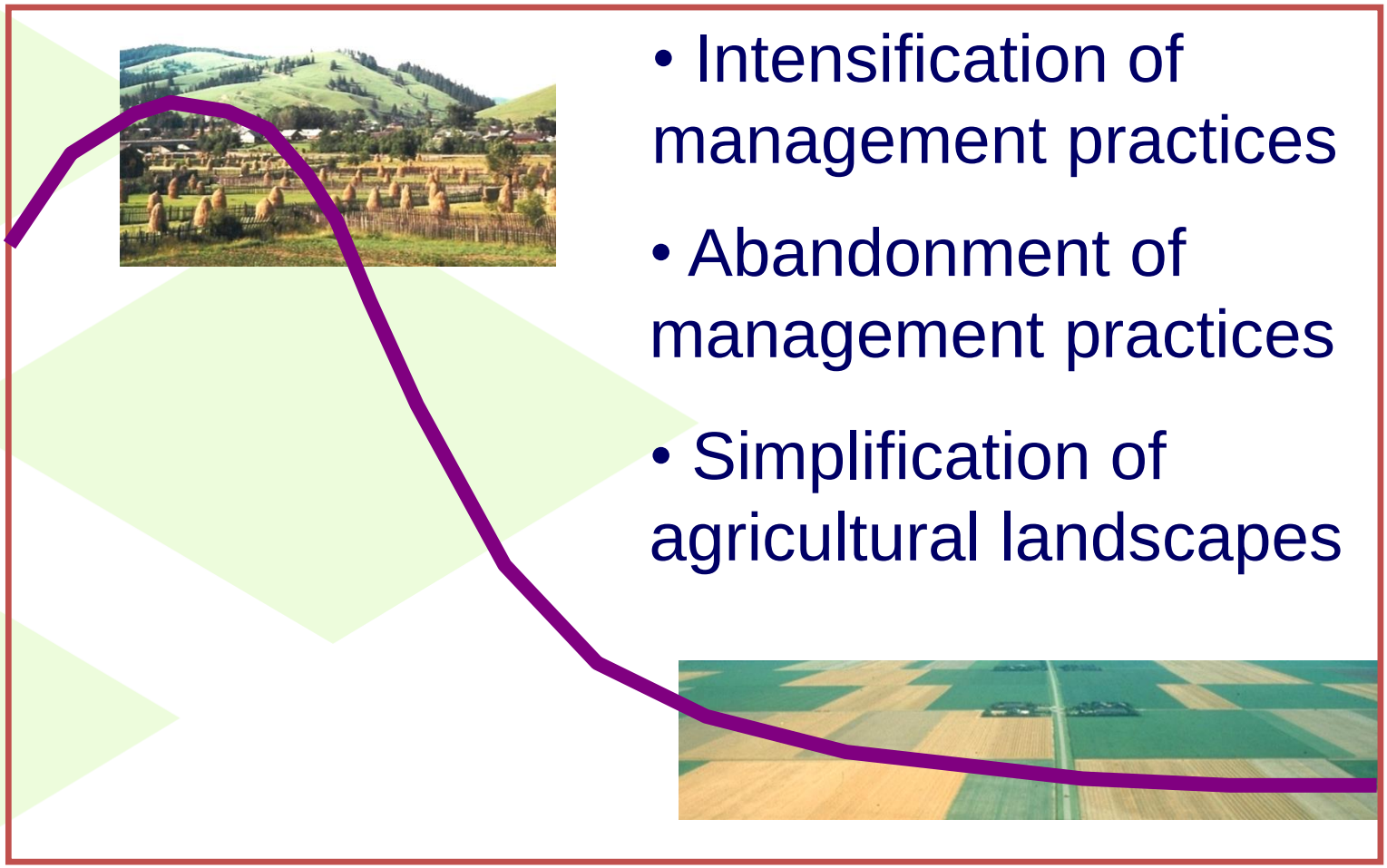




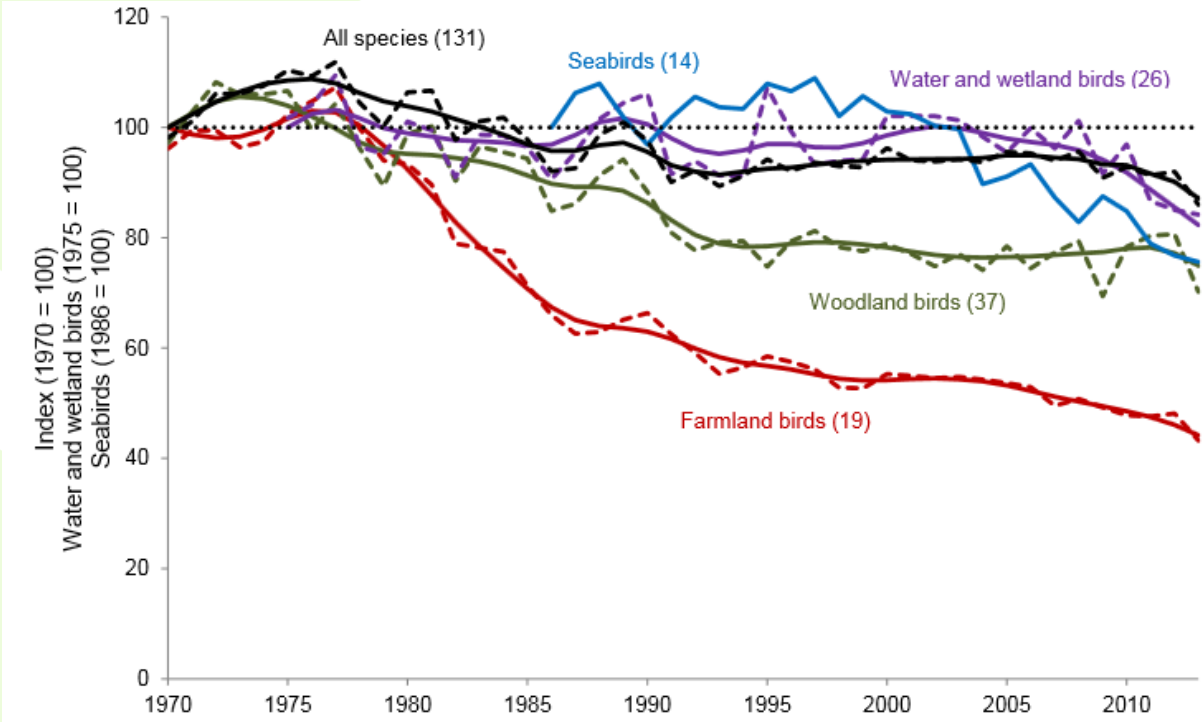


Pressures on farmland biodiversity



Graph from presentation by: Hoogeveen Y.R., Petersen J.E. & Gabrielsen P. (2001). *Agriculture and biodiversity in Europe.* Background report to the High-Level European Conference on Agriculture and Biodiversity, 5–7 June, Paris. STRA-CO/AGRI (2001) 17. Council of Europe/UNEP.

Pressures on farmland biodiversity: landscape simplification



UK Wild bird population index: 1970-2013

Source: Defra, BTO, RSPB

Scotland: 1995-2013 (BTO)

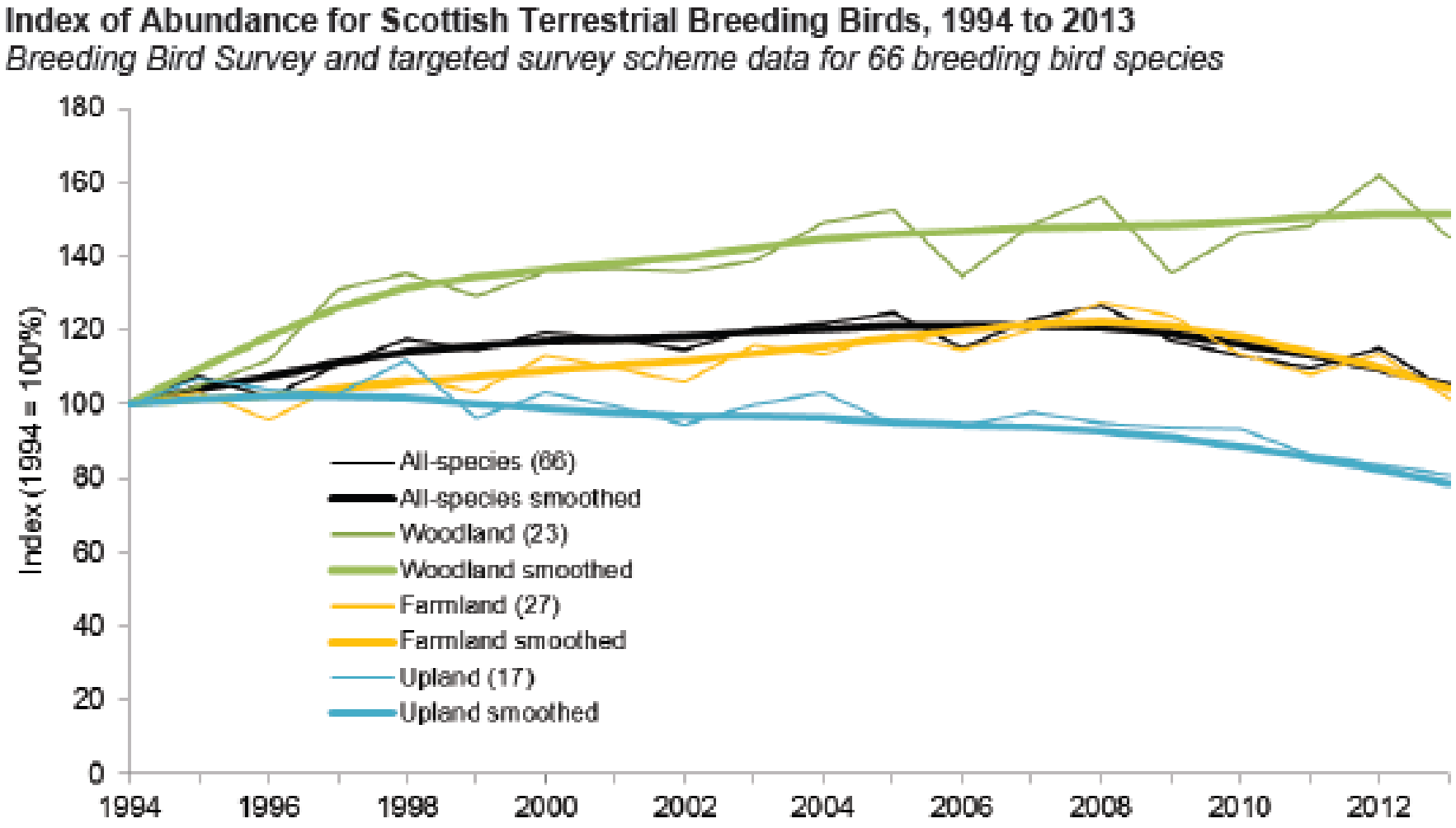
Increasing:

- House Sparrow (+46%)
- Yellowhammer (+40%)

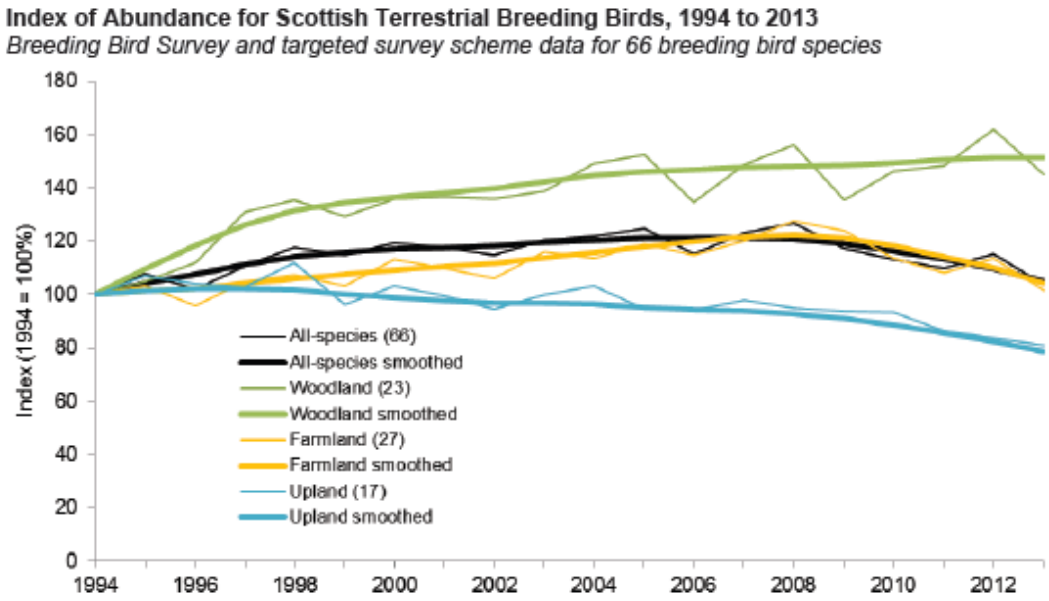
Declining

- Kestrel (-67%)
- Lapwing (-59%)
- Curlew (-55%)
- Rook (-39%)
- Linnet (-35%)
- Starling (-30%)
- Meadow Pipit (-19%)

Wider countryside: upland birds



Wider countryside: birds



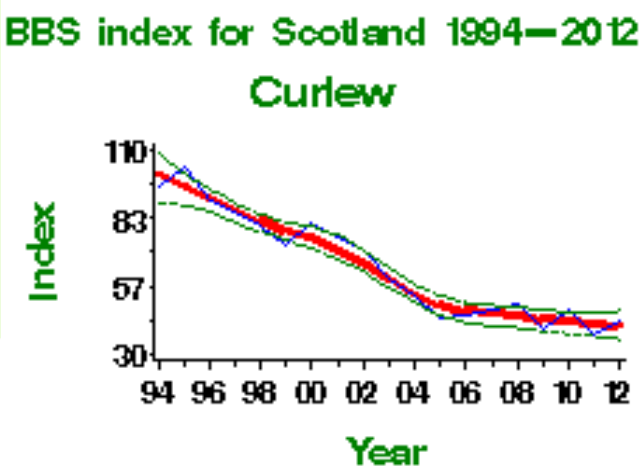
1994-2013

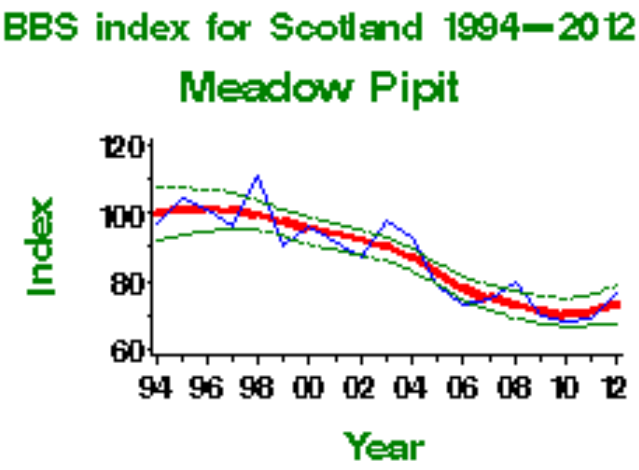
Stable:

- Raven
- Snipe
- Red Grouse

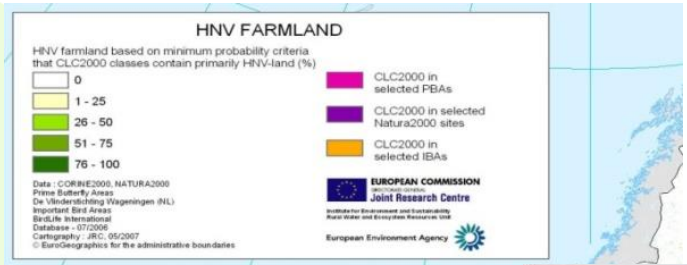
Declining

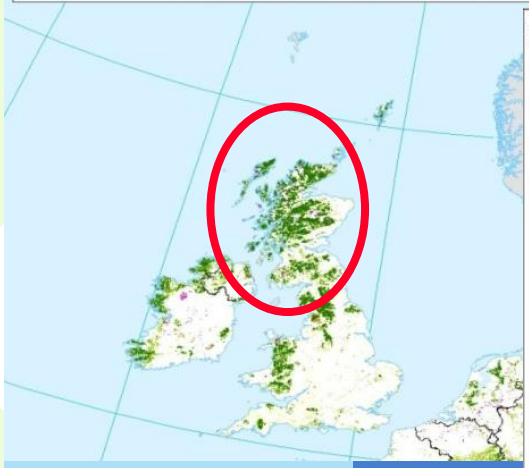
- Curlew (-55%)
- Golden Plover (-25%)
- Meadow Pipit (-19%)

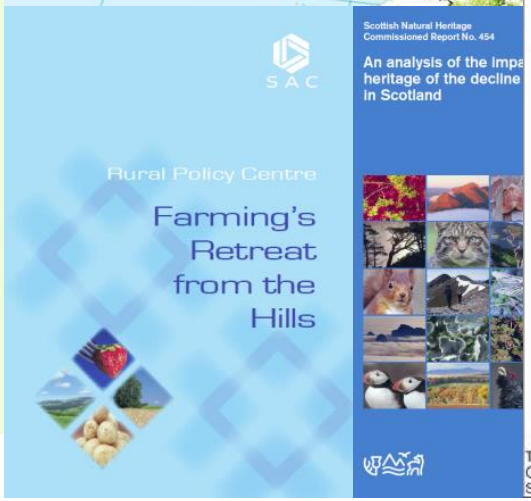


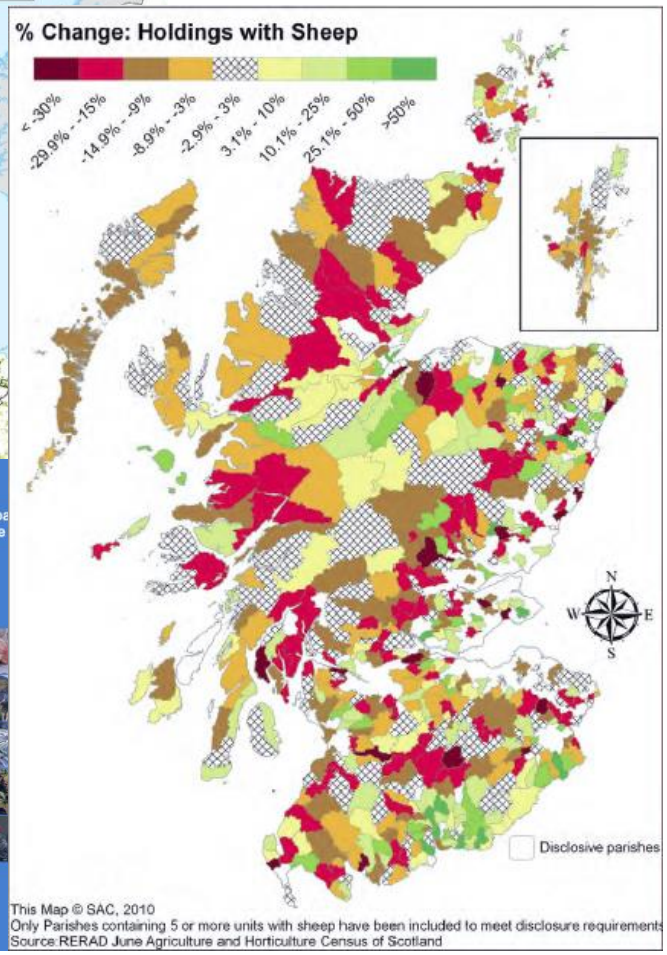


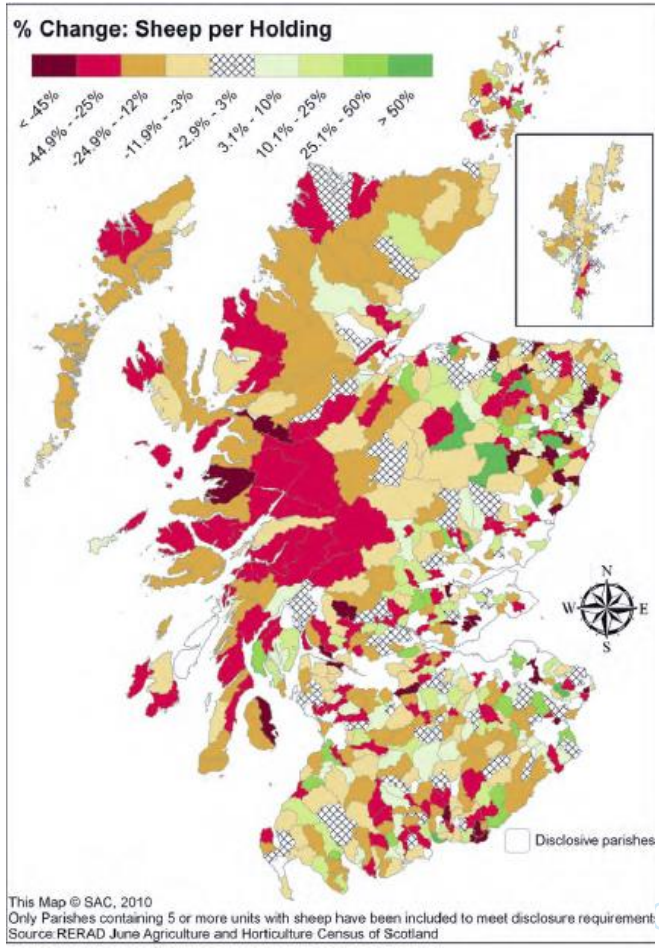
Changes to upland livestock:











HNV farming systems are of HNV ecological importance because:

- High proportion of semi-natural vegetation
- Lot of natural vegetation and features
- Constraints on type AND timing of management
- Constraints on grazing and cropping pressure
- Limits to number of animals and need to move these between pastures

HNV farming systems are of ecological importance:

- Longevity of systems allows ecological 'predictability' and 'stability'

- They introduce spatial diversity (especially patchwork of habitats)

- They introduce temporal diversity (especially patchwork of management)

- Provide links between habitats/landscapes (whether in close proximity or far apart)

Underlying principle was, and remains:

- A large proportion of EU farmland is of particularly high nature conservation value
- That market pressures/support limits are increasingly making these farms economically unviable
- Intensifying/abandoning the farming systems on these farms would adversely impact the HNV
- There was therefore a case for considering directing additional financial support to these farms to help maintain the HNV

Typology of HNV farming systems

Livestock systems:

- in upland & mountain areas
- in Mediterranean regions
- in wooded pastures
- in temperate lowland regions

Arable and permanent crop systems:

- dryland cultivation in Mediterranean regions
- arable cultivation in temperate regions
- rice cultivation
- tree crops
- vineyards

Mixed systems:

- mixed Mediterranean cropping
- small-scale mixed farming

Taking action for HNV farming systems:

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HNV characteristics

HNV defining characteristics

Farming intensity
Low density livestock / ha
Low use of Nitrogen / ha
Low use of biocides / ha

HNV

% of semi-natural land cover
Grass, scrub
Trees
Field margins
Water bodies

Diversity of land cover
Crops
Fallows
Grass, scrub
Trees
Water bodies

Identification of HNV

Identification of HNV: plant and agri-environment variables; farmland birds

Estimated High Nature Value (HNV) farmland presence in Europe, 2012 update

HNV farmland

No data

Outside coverage

Data sources:
Corine 2006, Natura 2000
IBAs: BirdLife International
PBAs: De Vlinderstichting (NL)

National biodiversity data
(UK, CZ, LT, SE, ES)

National HNV contributions
(HR, SR, CH)

Cartography: Umweltbundesamt

Methodology: EEA & JRC 2007
adapted by: ETC-SIA 2012

Identification of HNV: semi-natural vegetation; RBAEPS

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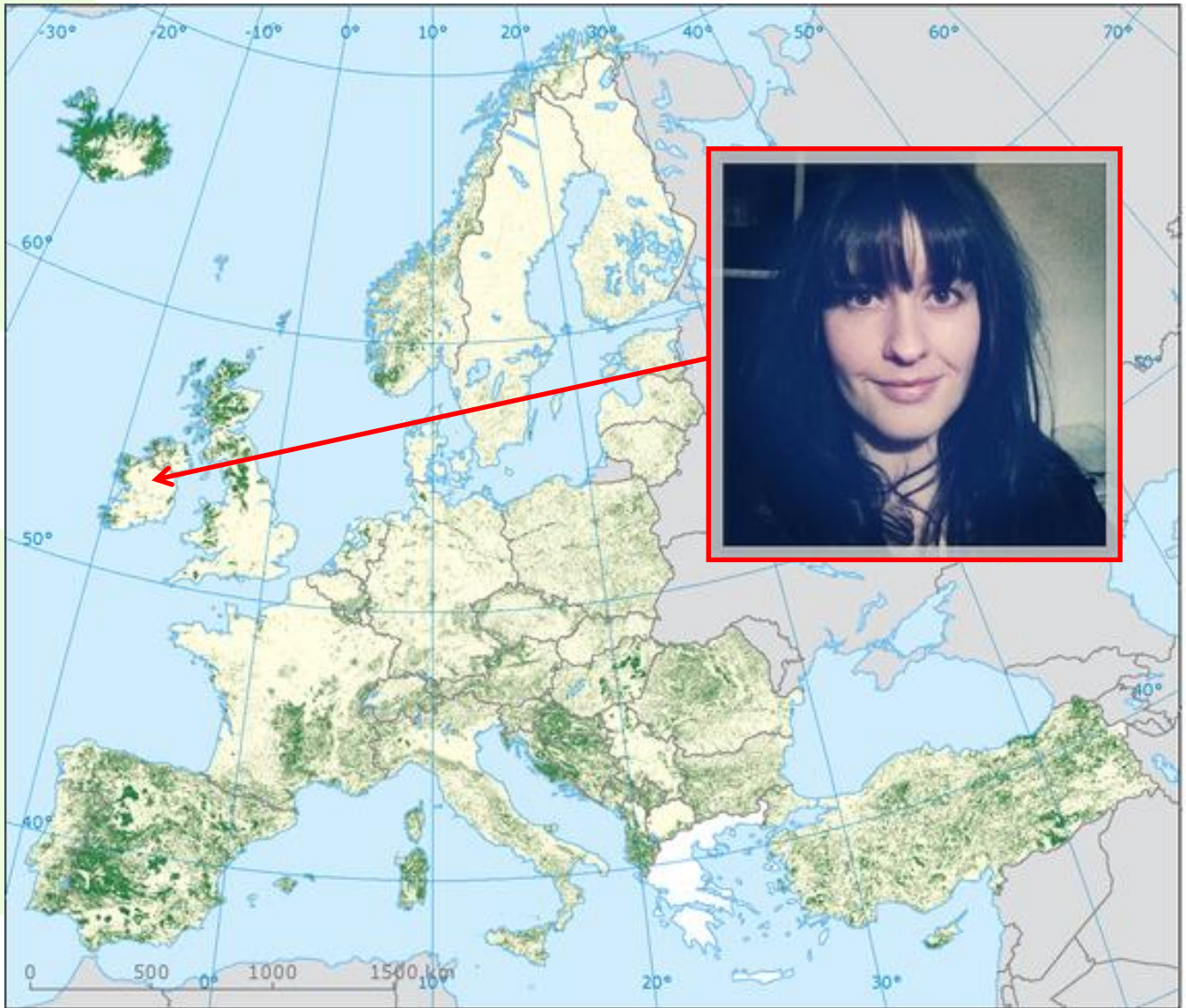
Identification of HNV: Farm based characteristics



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Identification of HNV: environmental, management & socio-economic variables

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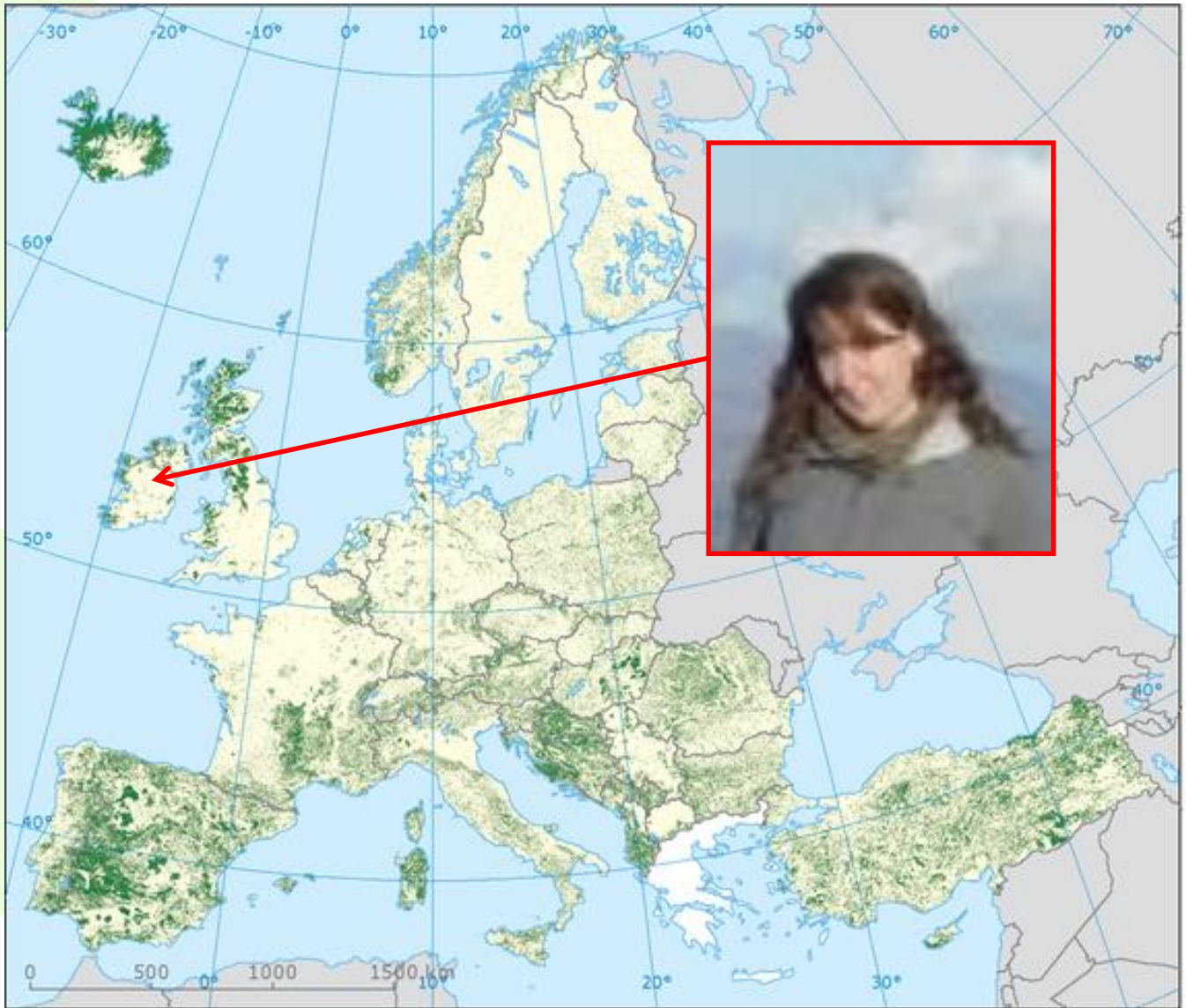

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Identification of HNV: mapping & characterisation issues

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Identification of HNV: characterisation of different montado types

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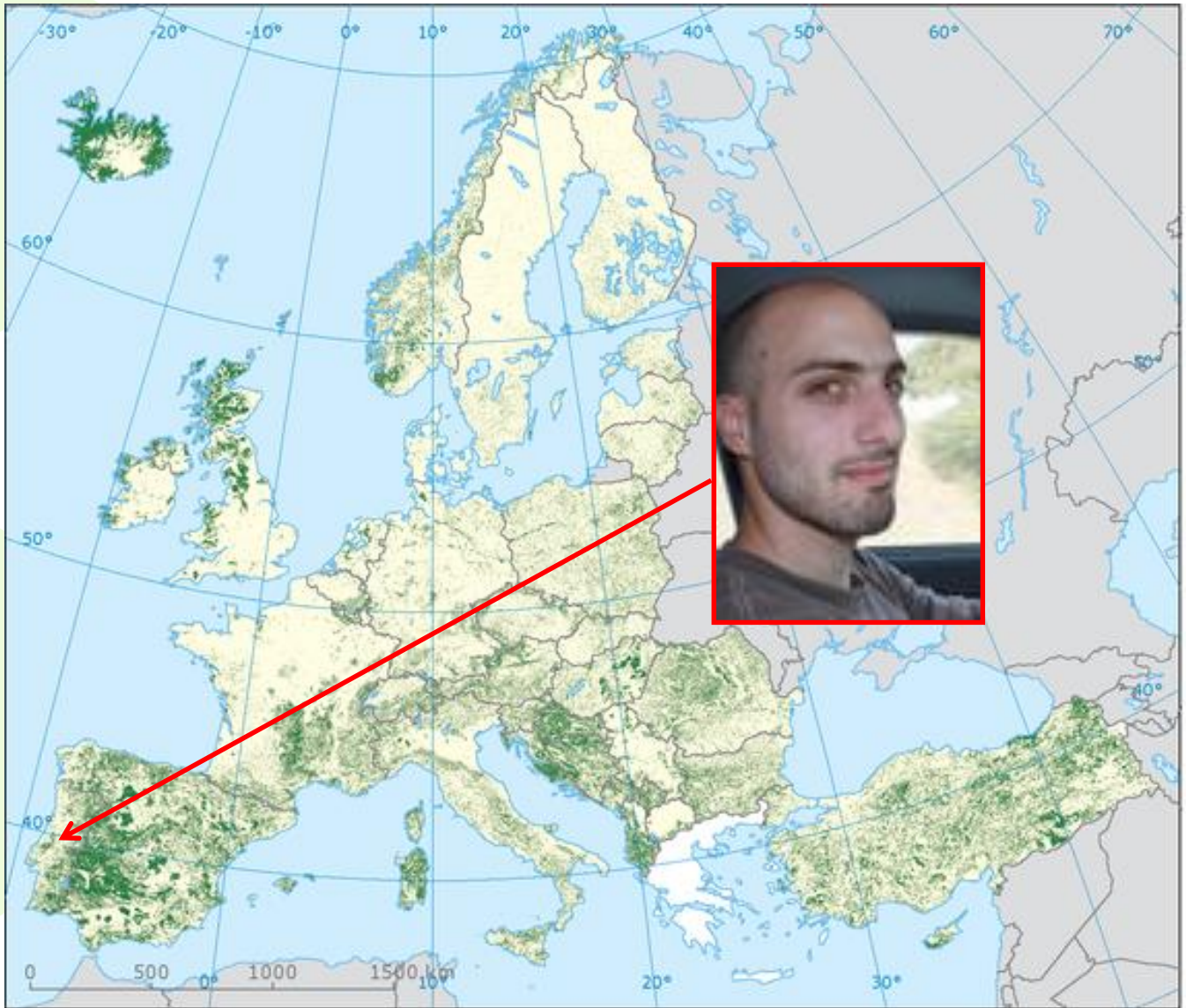

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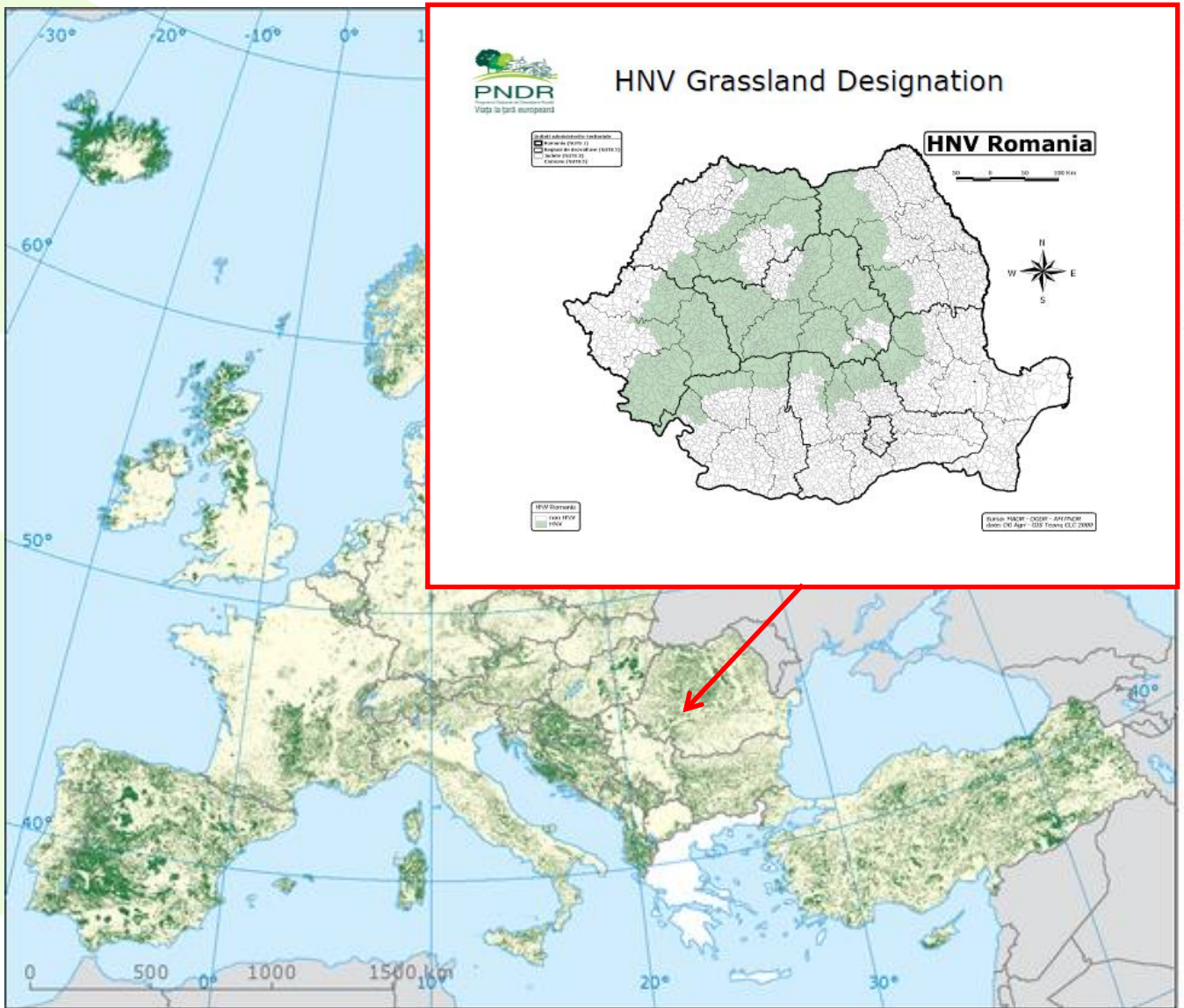
Identification of HNV: Romania



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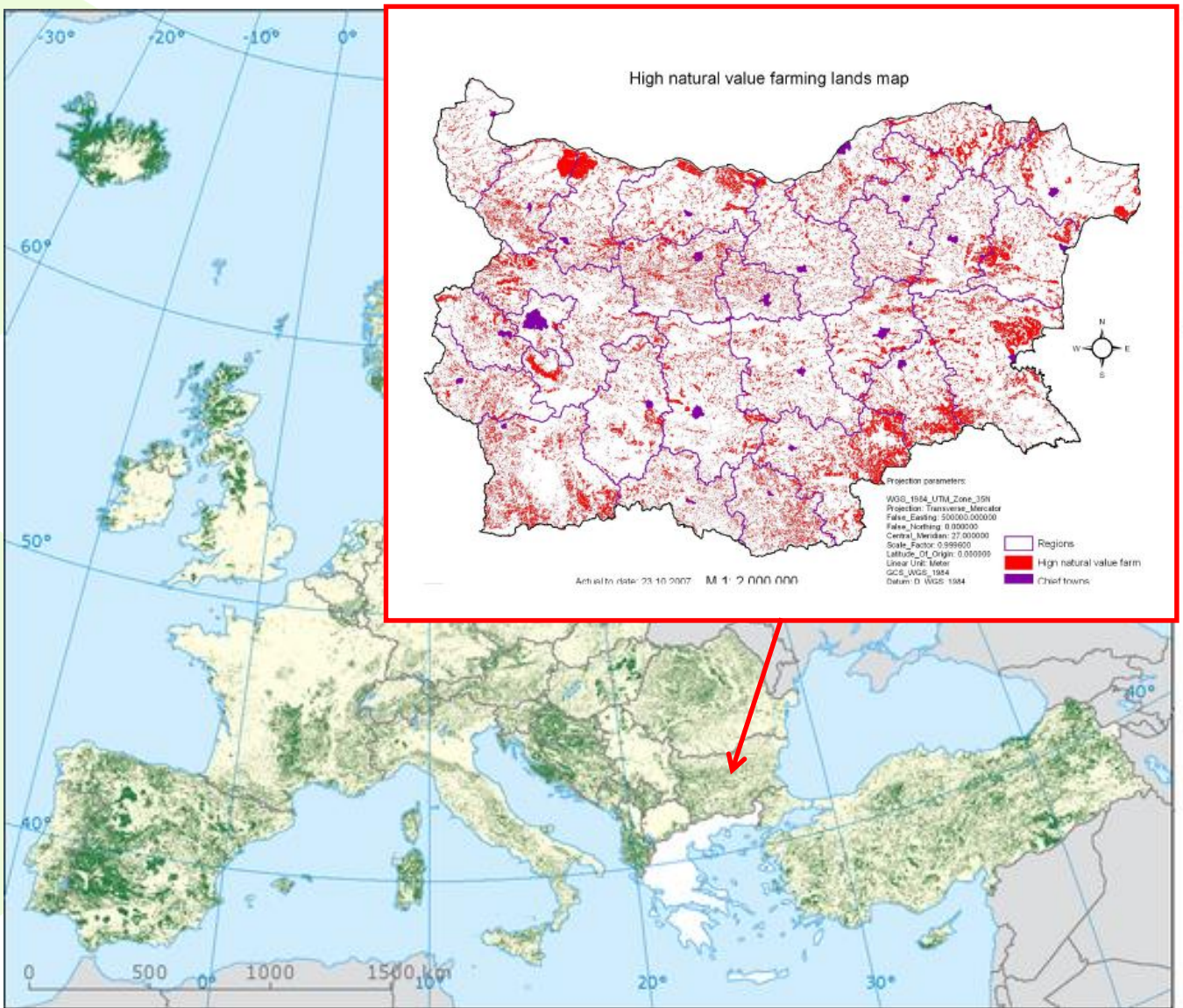
Identification of HNV: Bulgaria



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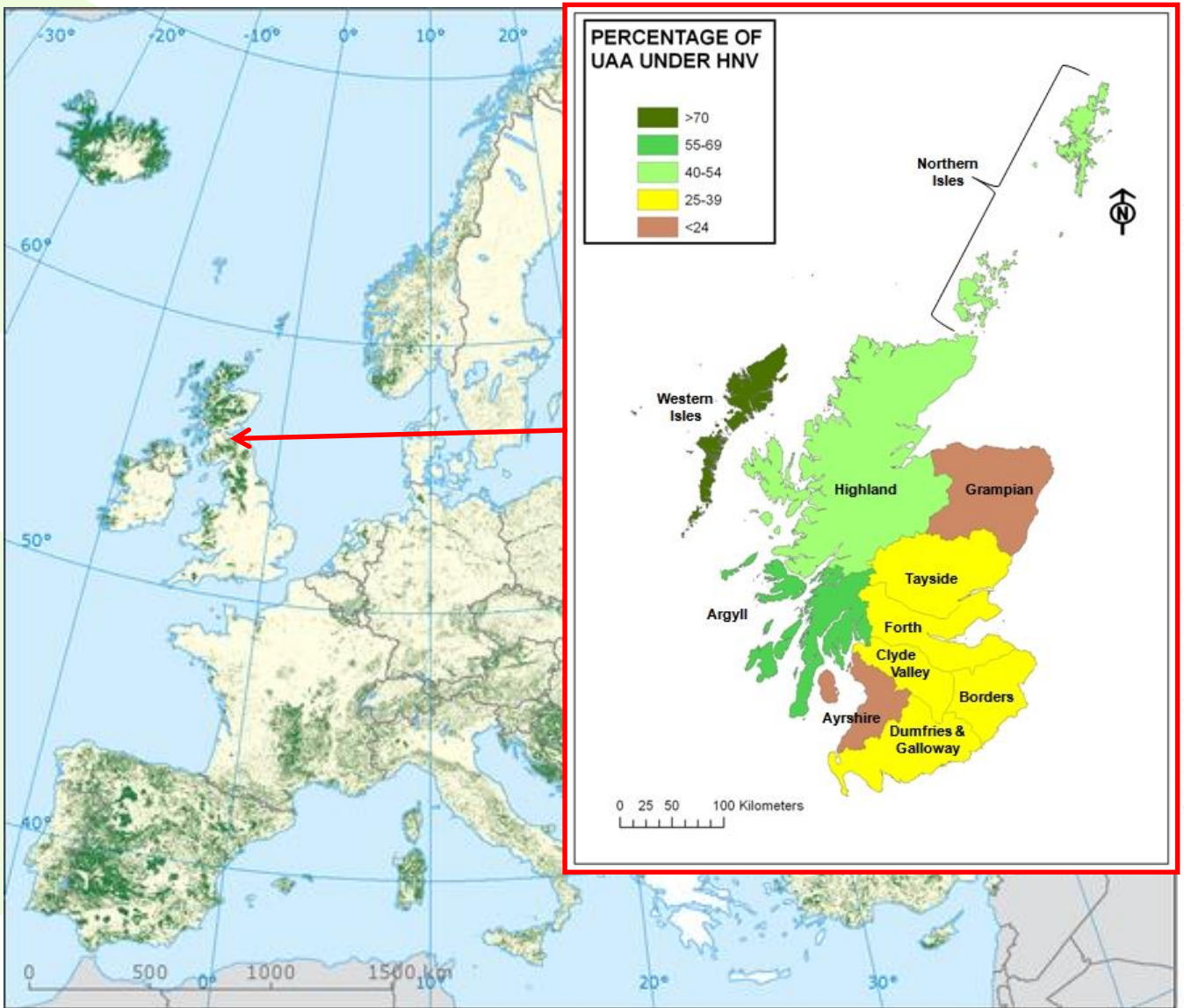
Identification of HNV: Scotland



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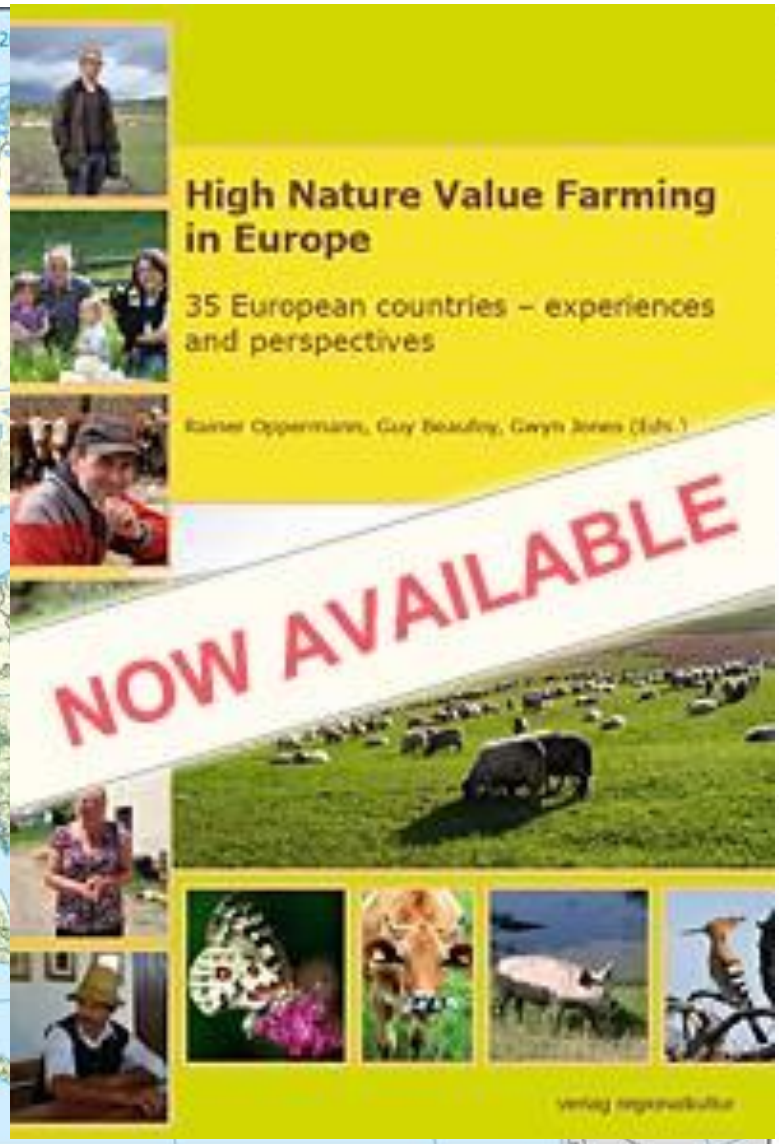

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Why is a common framework needed?

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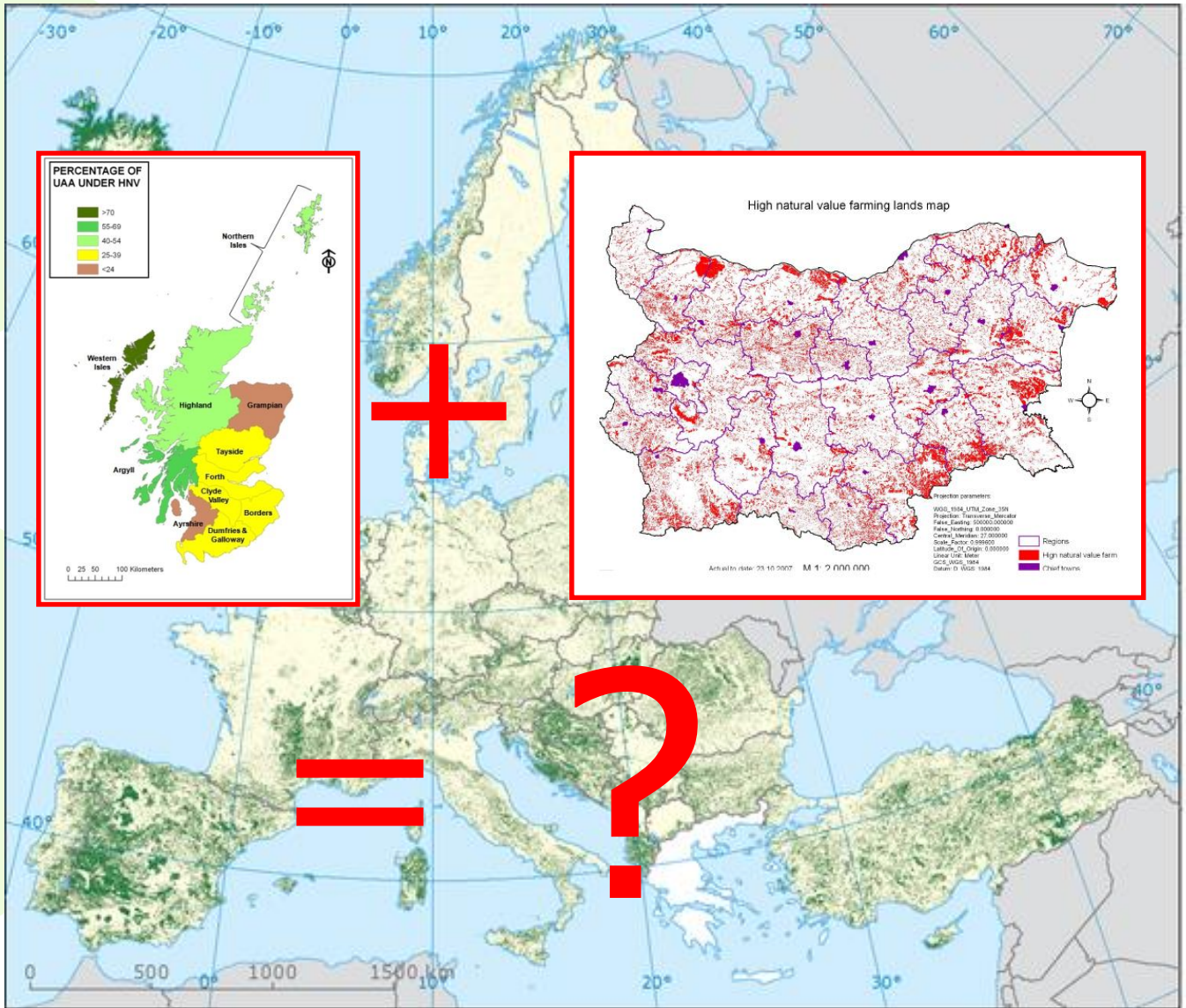

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Identification of HNV

European Commission

Science for Environment Policy

New framework aids identification and assessment of High Nature Value farmland

With over half of Europe's species dependent on agricultural habitats, protecting 'high nature value' farmland is vital to biodiversity conservation. However, the identification and assessment of such farmland requires careful co-ordination, concludes a recent study. The researchers present a framework to help with this process and make a set of key recommendations.

Almost 40% of land cover worldwide is farmed and agriculture has been associated with unprecedented levels of biodiversity loss. However, farming – low-intensity practices in particular – can play an important role in halting biodiversity loss and protecting wild species. In Europe recognition of this came in the 1990s, with the development of the concept of 'High Nature Value farmlands' (HNVf).

High Nature Value farmlands are defined as one of three types[1]: (i) farmland with a high proportion of associated semi-natural vegetation, (ii) farmland dominated by low-intensity agriculture and mosaics of semi-natural and cultivated land and features such as hedgerows, ponds and trees, and (iii) farmland supporting a high proportion of the European or world population of rare species or species of conservation concern.

The European Commission requires that all Member States monitor their HNVf, as part of assessment of Rural Development Programmes, and suggest a selection of indicators for this purpose. However, each Member State decides individually on which indicators and types of data to collect and consider. While this approach allows flexibility, there are no minimum data standards or guidelines on the way local and regional information should be structured. As a result there is often a lack of accurate data on the distribution of farming systems and it is difficult to gain an EU-wide perspective on the extent and condition of HNVf.

In this study, researchers developed a framework which allows detailed local data to be combined to give a cohesive assessment at the Member State, and ultimately EU, level. They propose a bottom-up structure, where local organisations such as farmers' organisations, NGOs and local authorities contribute to an integrated database. Careful co-ordination to implement standards and guidelines at this point will ensure that the data collected can also be used for national and EU-wide assessments.

The researchers recommend that the guidelines address the following issues:

1. Clarification of HNVf concepts. This includes clearer definitions of HNVf types but also the connections between them.
2. Common guidelines for surveillance. This will ensure that the data can be used for assessments from local to EU scales.
3. An effective communication and reporting structure. Again, this will allow integrated reporting and will aid the assessment of common aims.
4. Data integration. This should extend not only to HNVf field management data but also to other information, such as remote-sensing databases.
5. Data exchange. The data should be available to other Member States at both technical and scientific levels.

The combination of these five points will, the researchers say, provide a common structure that will greatly aid policy implementation and decision making, helping to protect this important land use in Europe.

20 November 2014
Issue 394

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Source: Lomba, A., Guerra, C., Alonso, J., Honrado, J.P., Jongman, R., McCracken, D. (2014). Mapping and monitoring High Nature Value farmlands: Challenges in European landscapes. *Journal of Environmental Management*. 143: 140-150. DOI: 10.1016/j.jenvman.2014.04.029

Contact: angelalomba@cibio.up.pt, steve.mcCracken@sruc.ac.uk

Read more about: Agriculture, Biodiversity, Environmental information services, Land use

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1. For further background on this topic see: http://www.leep.eu/assets/646/Developing_HNV_indicator.pdf

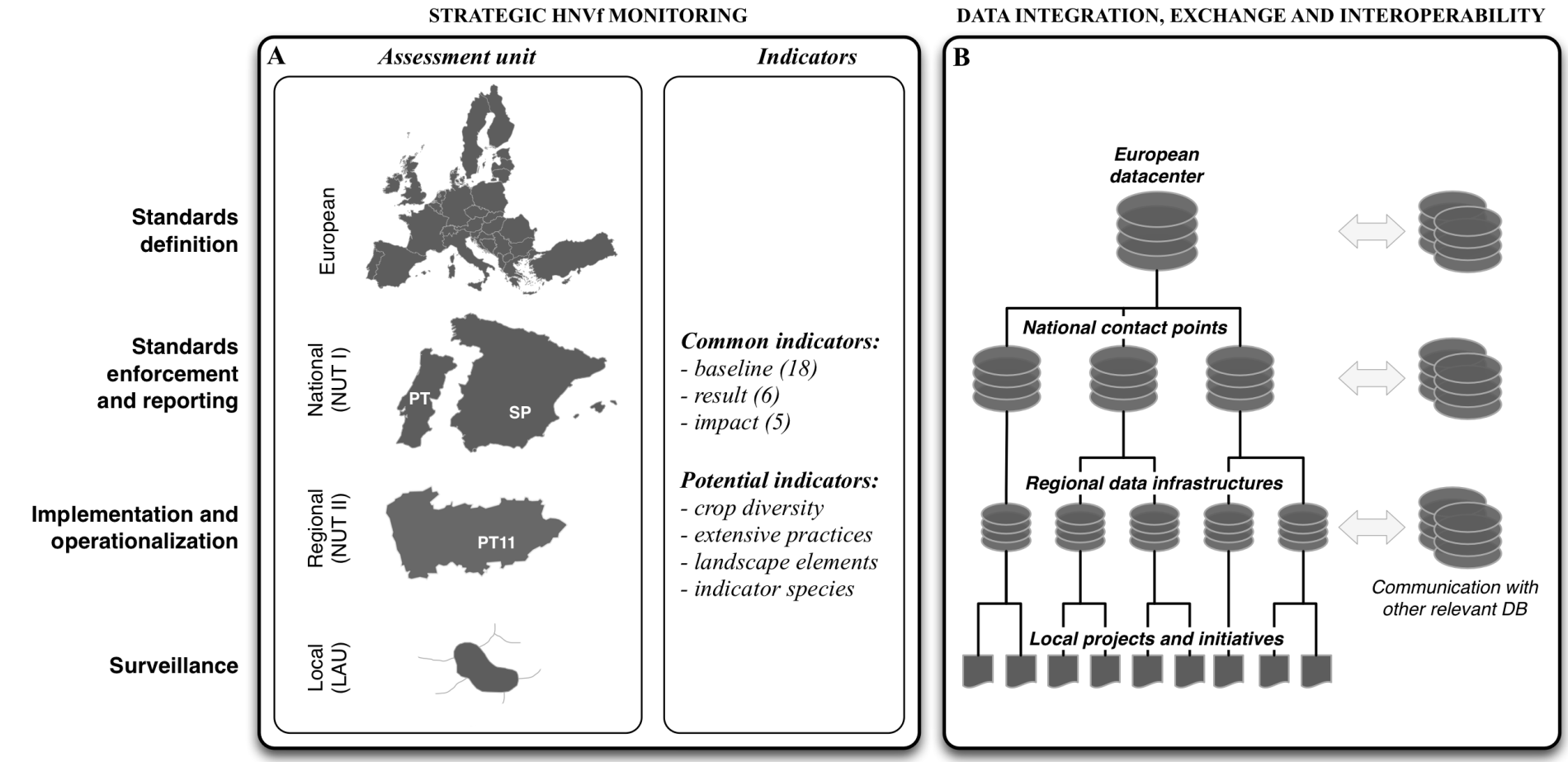
- Ongoing collaboration with Angela Lomba in Portugal

- Highlighting how a bottom up framework could allow cross-EU comparisons of HNV trends

CIBIO

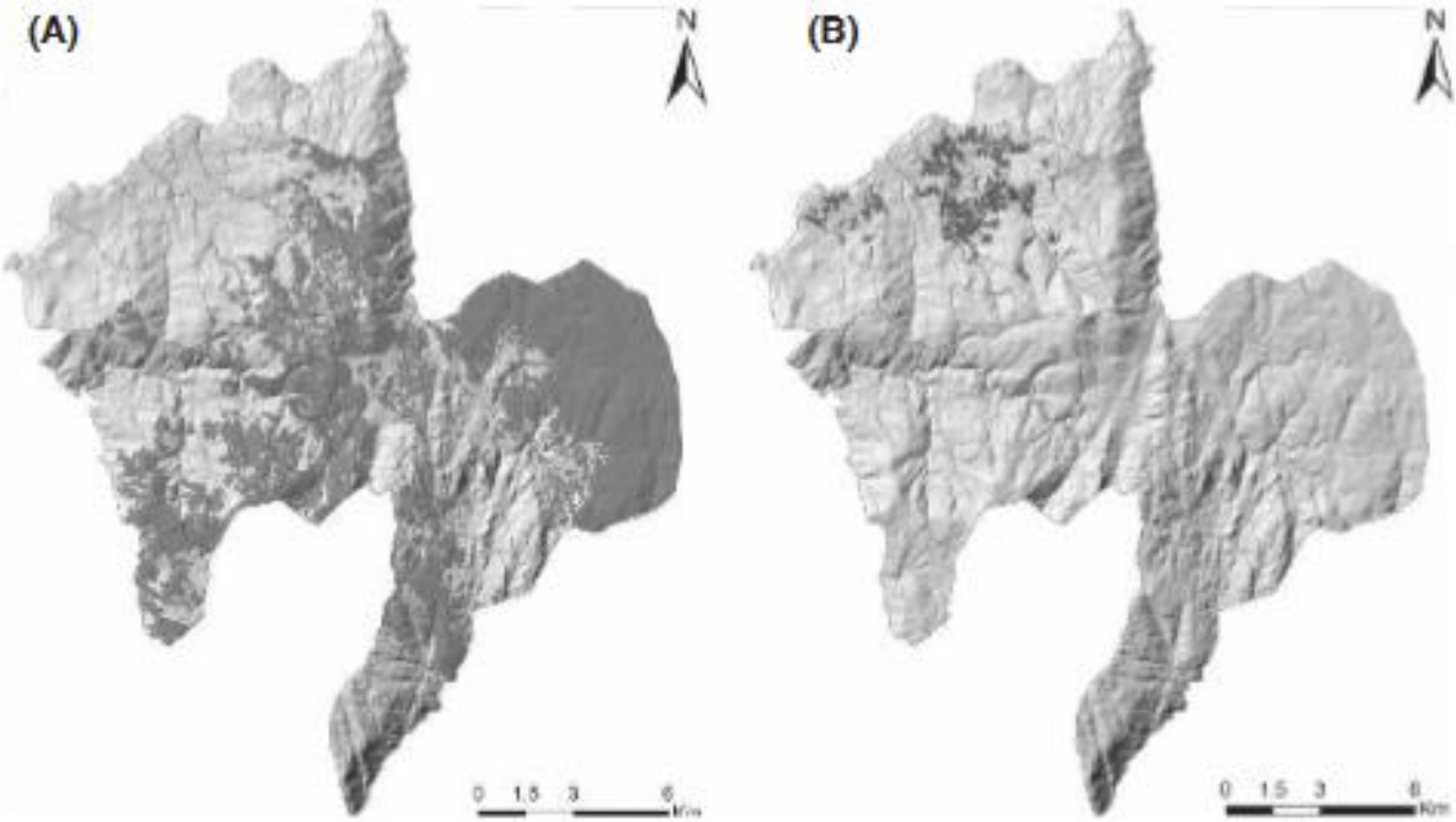
Research Centre in Biodiversity and genetic resources

Identification of HNV



Lomba, Â., Guerra, C., Alonso, J., Honrado, J.P., Jongman, R. & McCracken, D.I. 2014 Mapping and monitoring High Nature Value farmland: challenges in European landscapes. *Journal of Environmental Management* **143**, 140-150 Read Online

Identification of HNV: Melgaco



Lomba, Â., Alves, P, Jongman, R. & McCracken, D.I. 2015 Reconciling nature conservation and traditional farming practices: a spatially-explicit framework to assess the extent of High Nature Value farmlands in the European countryside. *Ecology & Evolution*, 5, 1031-1044 Read Online

Identification of HNV

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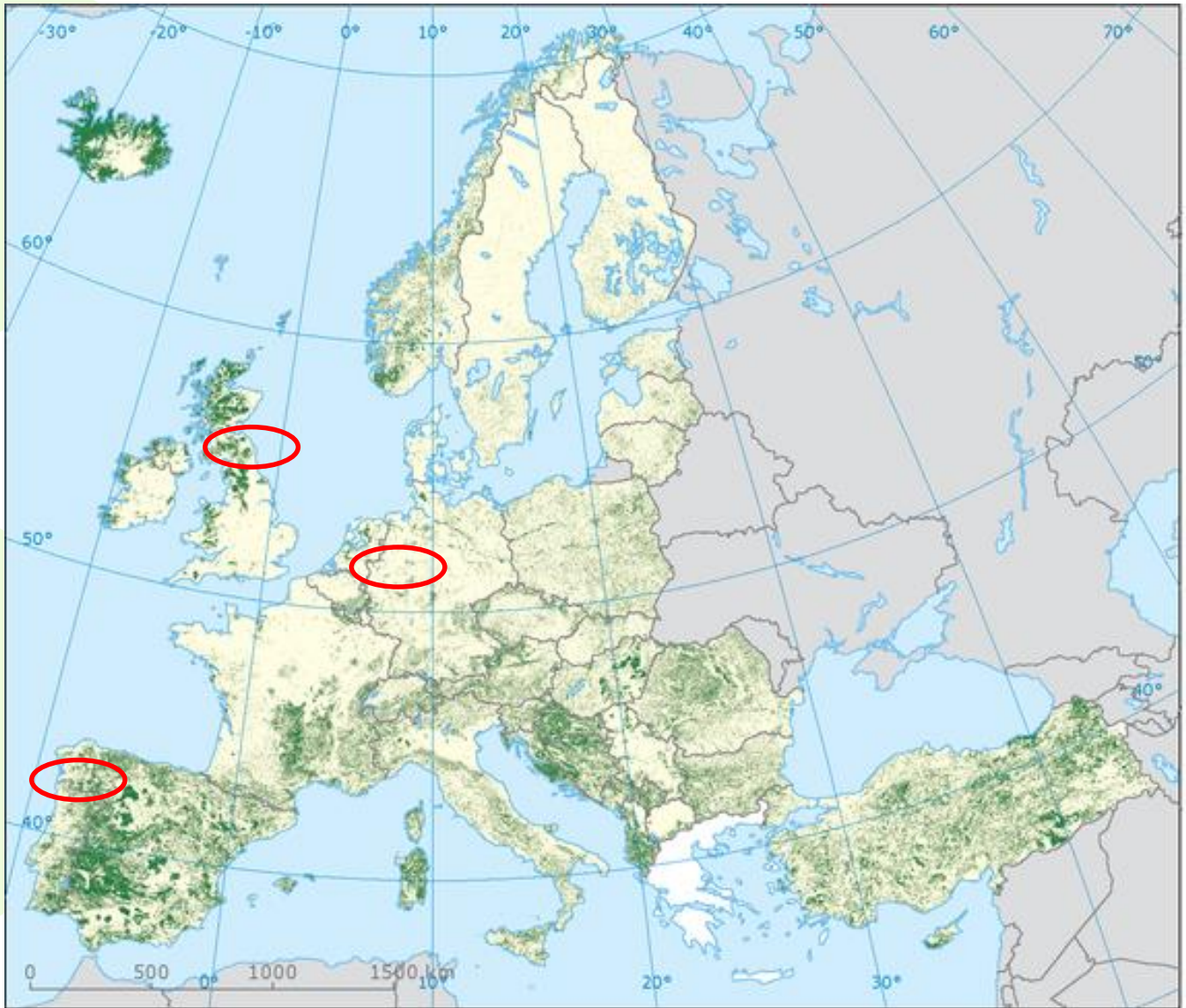

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Identification of HNV

- Identifying: how much, where and in what condition
  - Developing and delivering appropriate funding mechanisms at relevant scale
  - Monitoring outcomes and adapting the approach where necessary
- Identifying where it may not be feasible for HNV farming to continue
- Managing the land use change process so that biodiversity outcomes are optimised

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