



Semi-natural Pastures and Meadows –

A golden thread through EU environmental and agricultural policies

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Europe's semi-natural meadows and pastures

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Diversity of semi-natural pastures and meadows in Europe

Values

Key role of farming/agriculture

Terminology

Links to Habitats Directive

Conclusion





Semi-natural, semi-open, semi-dark, extremely species-rich Fennoscandian wooded meadow, Gotland, Sweden



Atlantic heath and grass heath, grazed by sheep, Wales



Coastal heath with *Arnica montana* (Habitats Directive: Annex V), population decline caused by abandonment of grazing, Island of Sylt, North Sea



Saltmarsh with *Puccinellia maritima* and *Salicornia brachystachya* (endemic to W Europe), intensively grazed by sheep, Island of Sylt, North Sea



**Semi-natural grassland, grazed by sheep, Hiddensee Island, Baltic Sea, with
Helichrysum arenarium, *Armeria elongata*, *Thymus serpyllum***



Species-rich pasture (horses, cattle) on dry sandy ground with *Veronica spicata*, *Dianthus deltoides* and *Dianthus carthusianorum*, River Elbe, near Laasche, Germany. *Dianthus carthusianorum* is endemic to Europe.



Riparian meadow with *Fritillaria meleagris*, River Elbe, near Stelle, Germany. *Fritillary* is endemic to Europe, but not listed in IUCN Red List or Annexes of Habitats Directive.



Floodplain meadow dominated by *Alopecurus pratensis* (Meadow-foxtail) with solitary pollarded willow (*Salix x rubens*), high productivity, species-poor in vascular plants, River Elbe near Brackede, Germany



Species-rich basiphilous wet meadow with *Cirsium rivulare* on clayey ground, White Carpathian Mountains, Slovak Republic. *Cirsium rivulare* is endemic to Europe.



Sub-pannonic steppic grassland with *Stipa eriocalis* (Needle-grass), Hackelsberg, Burgenland, Austria



Salt steppe, grazed by cattle, near Illmitz, Burgenland, Austria



Mowed salt steppe with *Lepidium crassifolium*, near Illmitz, Burgenland, Austria



Wet meadow with orchids, *Serapias lingua* and *Serapias cortigera* (portrait), near Belmonte, Serra da Estrela, Portugal



Mediterranean matorral with *Erica arborea* and cork oak (*Quercus suber*), grazed by goat, Esterel Mountains, S France



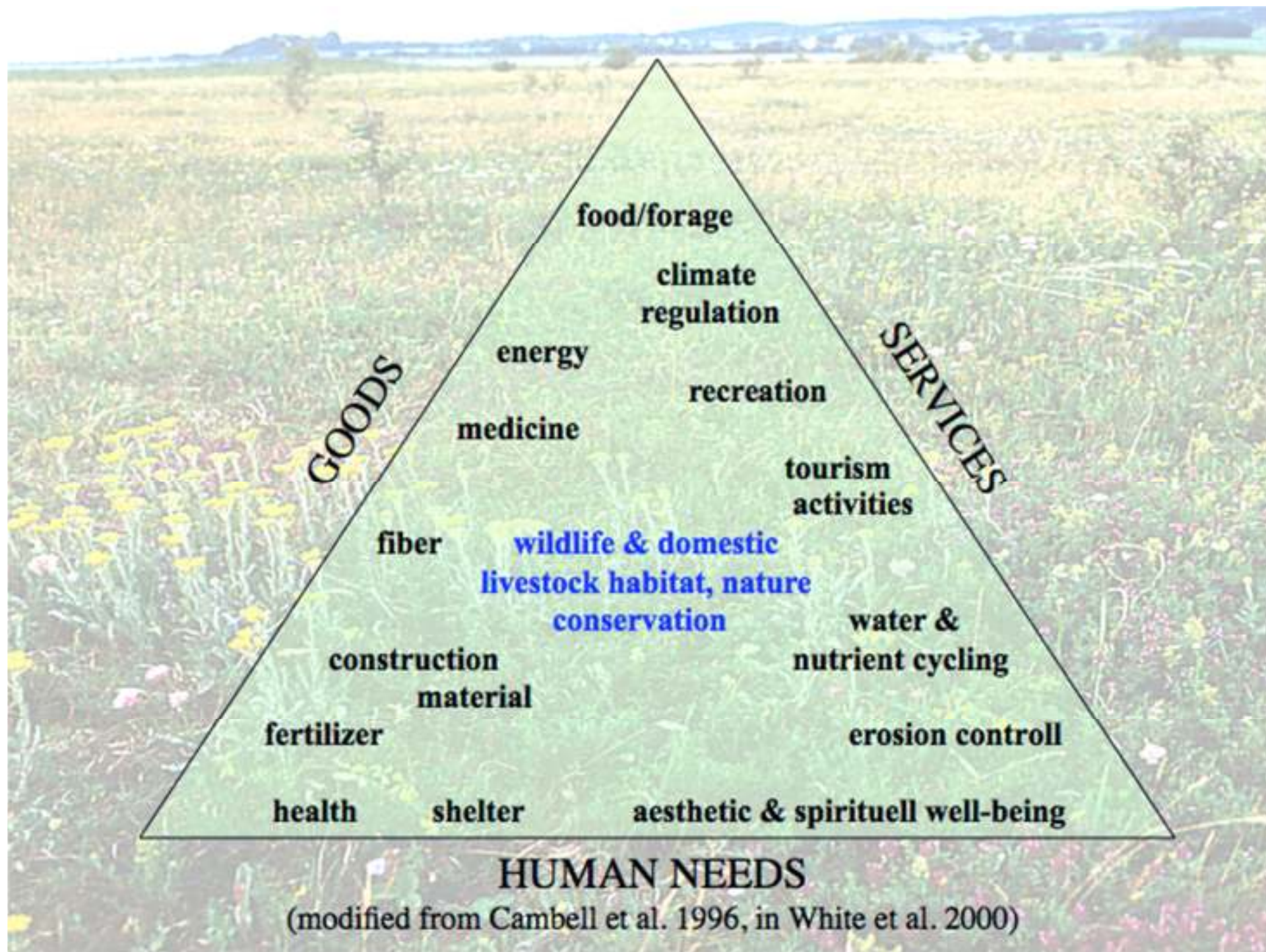
Olive grove (*Olea europaea*), mowed, Toscana, Italy



**Wood pasture for pig fattening with chestnut trees (*Castanea sativa*), Toscana, Italy;
terraces indicate former use as arable land**



Calcareous grassland with parasitic *Phelypaea boissieri*, near Lake Kirkini, Greece, not used as pasture since many years. *Phelypaea boissieri*, endemic to Greece, Macedonia and Turkey, is neither listed in Annexes of the Habitats Directive nor in the IUCN Red List



World records of vascular plant species richness (examples from Wilson et al. 2012: Tab. 1)

* 98 species/1 sqm

(semi-dry basiphilous grassland in Romania, **mowed**)

* 105 species/16 sqm

(semi-dry basiphilous grassland in Czech Republic, **mowed**)

* 116 species/25 sqm

(of semi-dry basiphilous grassland in Czech Republic, **mowed**)

*„For one of these extraordinarily rich, semi-dry grasslands, that in the Czech part of the White Carpathians, which holds the record at five spatial scales (Table 1), **continuity as a managed grassland** since Neolithic times has been suggested“*

*„The most common **management** of these grasslands has been **mowing** . . . “*

(Wilson et al. 2012: 800)

Examples of animal species, endemic or subendemic to Europe, that are associated with semi-natural pastures and meadows



Milvus milvus (Red Kite)
IUCN Red List: near threatened
population trend: decreasing
(photograph from the internet)

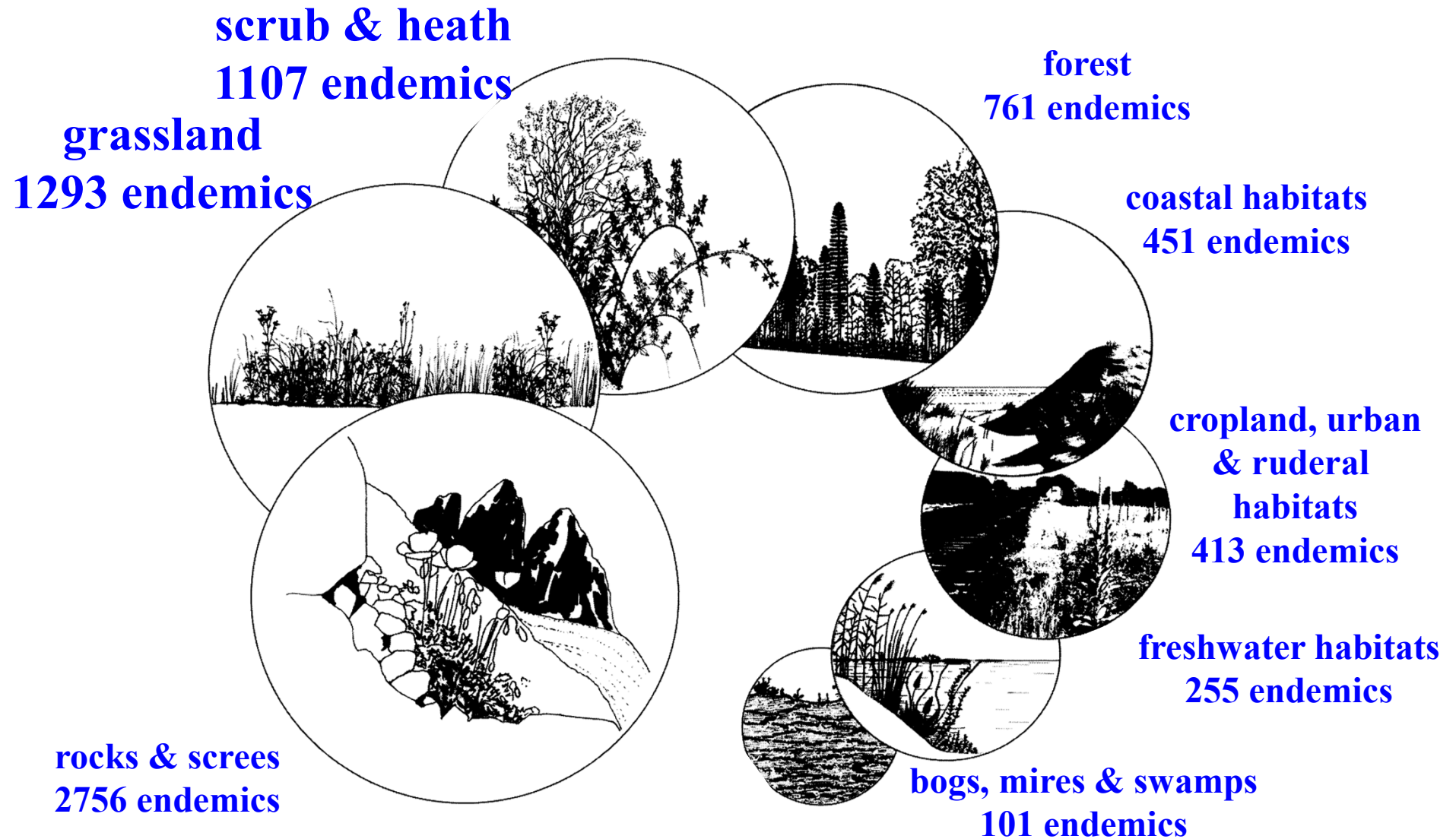


Chortippus rammei
population trend: ?
(photographed by Weissmair
in Rabitsch & Essl 2009)



Microtus bavaricus
IUCN Red List: critically endangered
population trend: decreasing
(photographed by Weiss
in Rabitsch & Essl 2009)

Number of endemic vascular plant taxa in different habitat types of Europe (Hobohm & Bruchmann 2009, 2010, 2012)



Examples of „*pastures and meadows*“ in different European languages

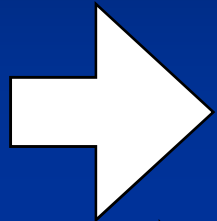
grasland, weiland, beemd, weide, we (Dutch), *prairie, pelouses, saule, herbage, pacage, marsault, bruyère* (French),
Grünland, Grasland, Wiesen, Weiden (German), *pascoli, prati, brughiera* (Italian), *pastagem, pasto* (Portuguese),
praderas, esteparios, herbazales, pastos naturales, pastizales, el brezal (Spanish), *ängar* (Swedish) . . .

23 official languages

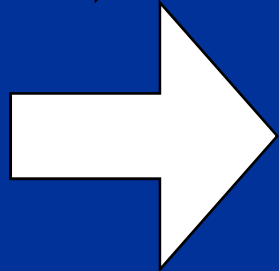
c. 88 non-official languages

Different cultures have different ways of compartmentalising land covers and land uses . . .

Are we talking about the same entities?
27 countries, c. 111 languages



European agreement



**many legal proceedings at
regional scales . . .**

- * eligible or not (CAP payments)**
- * protected or not (e.g. Habitats Directive)**



**natural (species composition)
nature conservation**



**cultural (man, livestock)
production**



**Semi-natural = natural + cultural
(photographs from internet)**

Habitats Directive Article 1

For the purpose of this Directive:

(a) conservation means a series of measures required to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable status as defined in (e) and (i);

(b) **natural habitats** means terrestrial or aquatic areas distinguished by geographic, abiotic and biotic features, whether entirely natural or **semi-natural** . . .

semi-natural pastures and meadows

(core of diverse definitions)

- * grazed and/or mowed/cutted
- * out of crop rotation/not ploughed/not reseeded/not tilled
- * natural plant composition/predominantly self-seeded

* *grassland*

dominated by grasses or herbs, in special cases by cryptogams

* *heath/scrub/shrubland/thicket*

dominated by dwarf shrubs or shrubs

* *wood pasture/wooded meadow/grazed coppice*

dominated by trees or tall shrubs

Remaining „grasslands“

**N. America,
tallgrass prairie** **9.4 %**

**S. America,
Cerrado woodland
and savannah in
Brazil, Paraguay,
and Bolivia** **21.0 %**

**Asia,
Steppe in
Mongolia, Russia
and China** **71.7 %**

**Africa,
savannah in
8 countries** **73.3 %**

**Oceania,
SW Australia** **56.7 %**

**Europe ? (natural range of semi-natural habitats?)
EU 27 (2007) 568 Mill. km² (13 % of the whole area = perm. grassl./mead.)**

(White et al. 2000, European Commission 2010)

**Key role of farming - semi-natural pastures and meadows decline due to
abandonment and change in use**

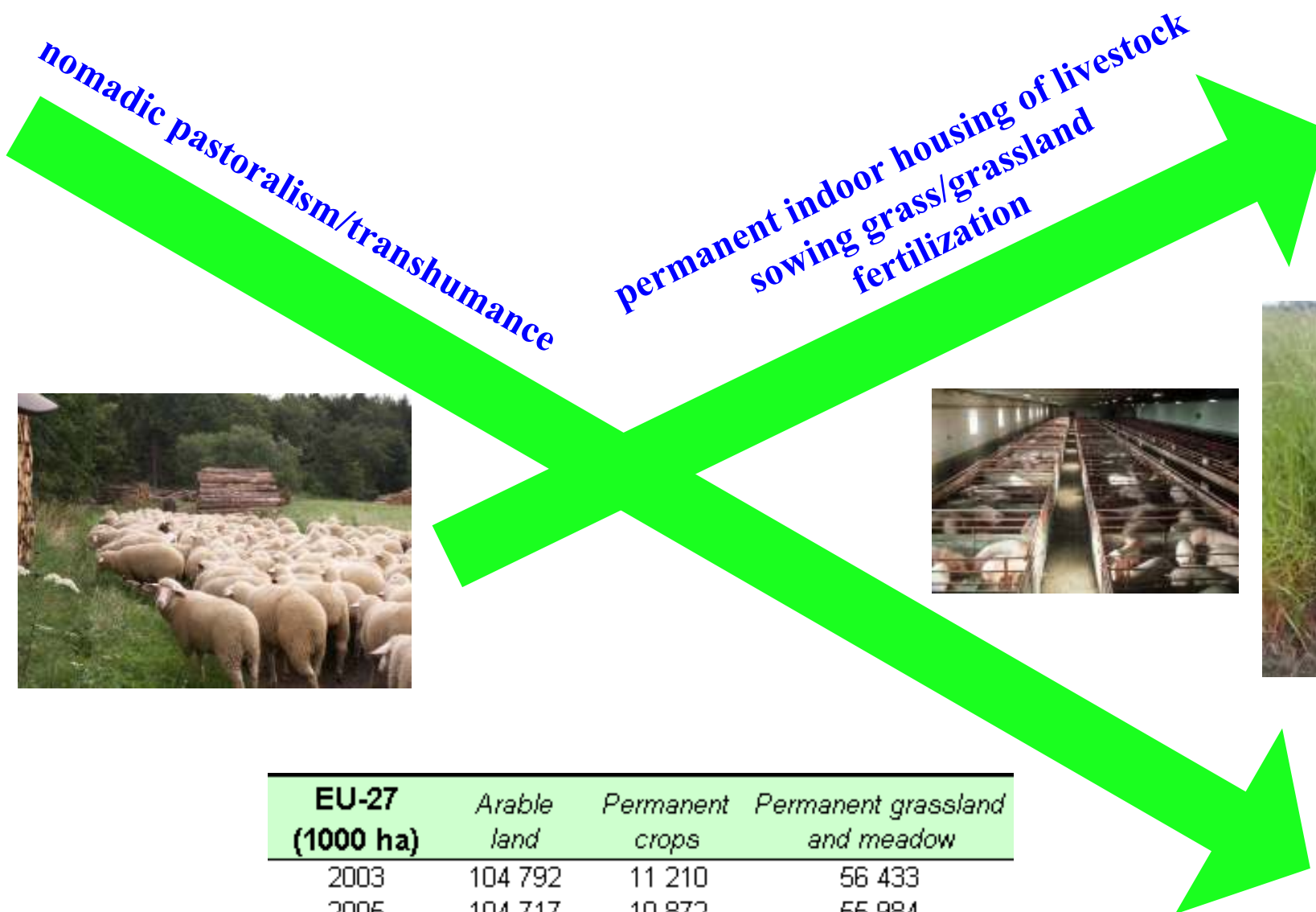
change in use

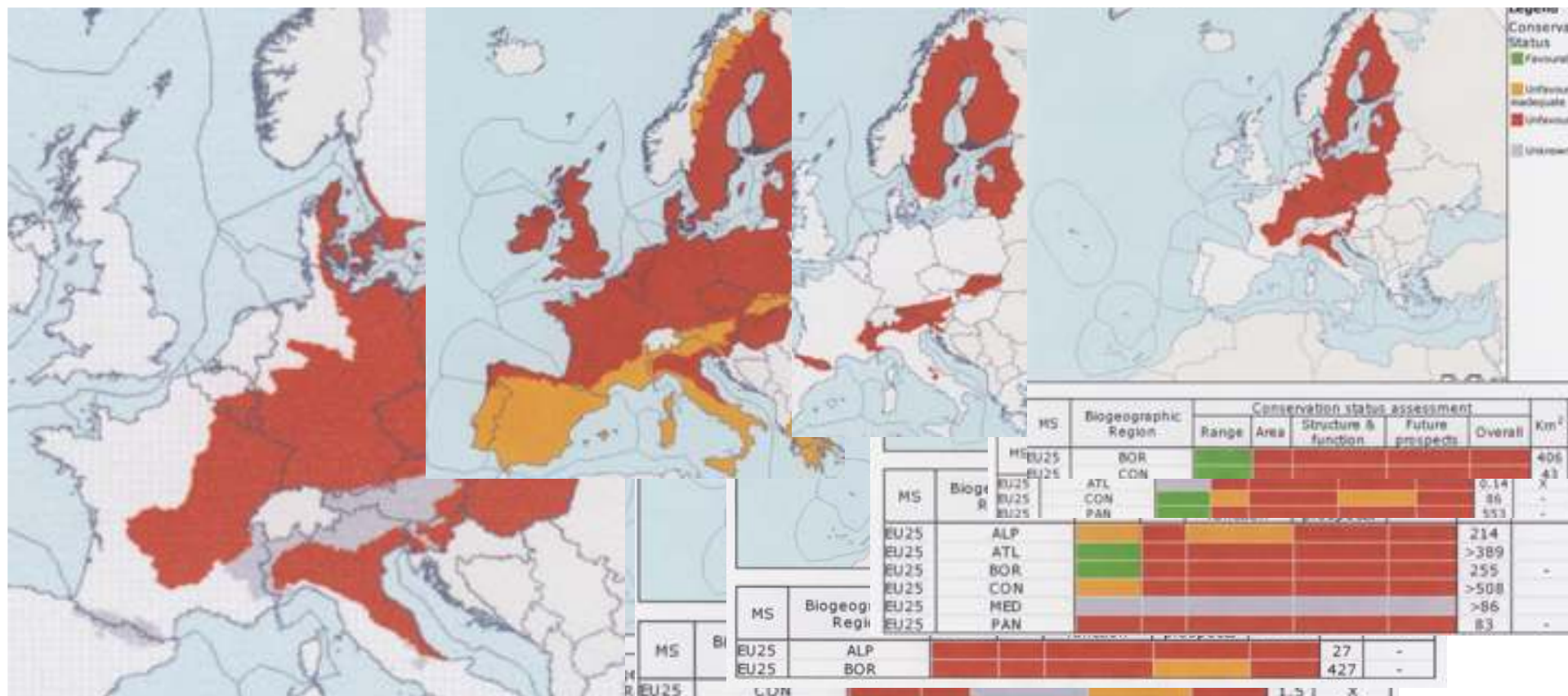


abandonment



Key role of farming - changes during the last centuries and decades





| MS | Biogeographic Region | Range | Area | Structure & function | Future prospects | Overall | Km ² |
|------|----------------------|-------|------|----------------------|------------------|---------|-----------------|
| EU25 | ALP | | | | | 2.35 | - |
| EU25 | CON | | | | | 0.2 | X |
| EU25 | PAN | | | | | 205 | - |

**Holey protection
(Annexes of Habitats Directive)**

**Many types of
semi-natural
high nature value
pastures and meadows
are not sufficiently
protected by
European laws**



Conclusion

- * In comparison with the goals of the CBD and other international agreements (Habitats Directive, EIA Directive, Water Frame Directive, etc.), noting that the CAP aims to support multifunctional agriculture, *semi-natural pastures and meadows* are not adequately valued and protected - neither in quantity, nor in quality.
- * Need of a clear definition of *semi-natural pastures and meadows*
 - Cultural aspect: annual mowing or grazing
 - Natural aspect: plant composition/diversity/duration after ploughing/tilling
- * The whole system of *semi-natural pastures and meadows*
 - should be protected more sufficiently
 - should be managed more specifically (Environmental Agri-ment)