



Nature's Ups & Downs in a Changing Europe

John Rodwell

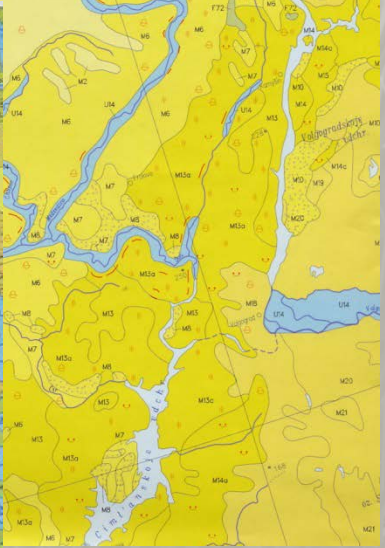
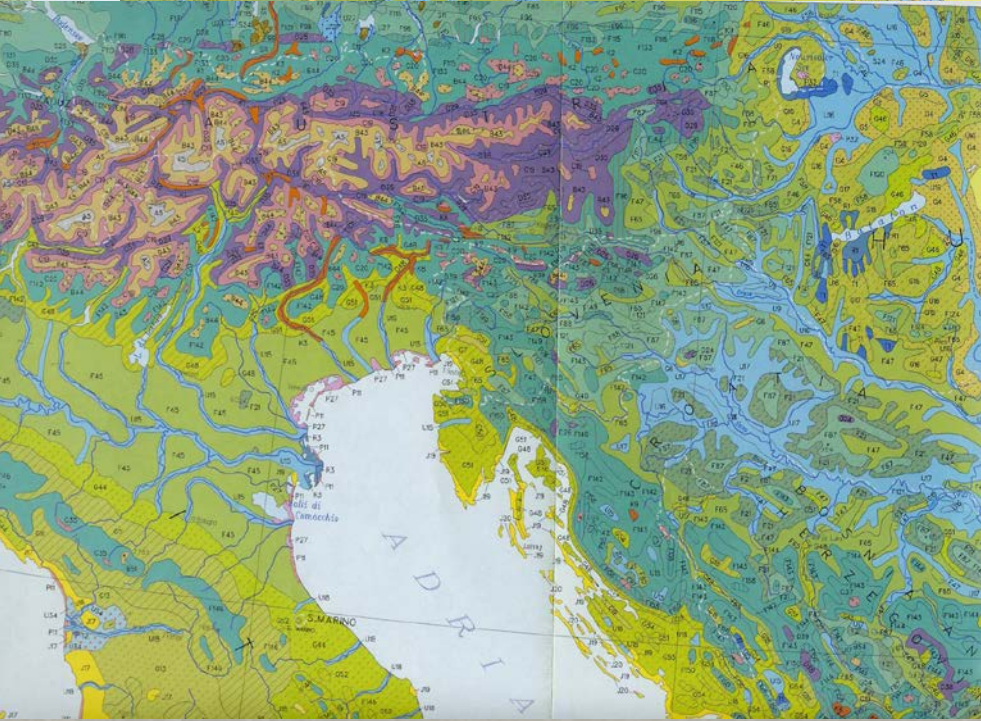
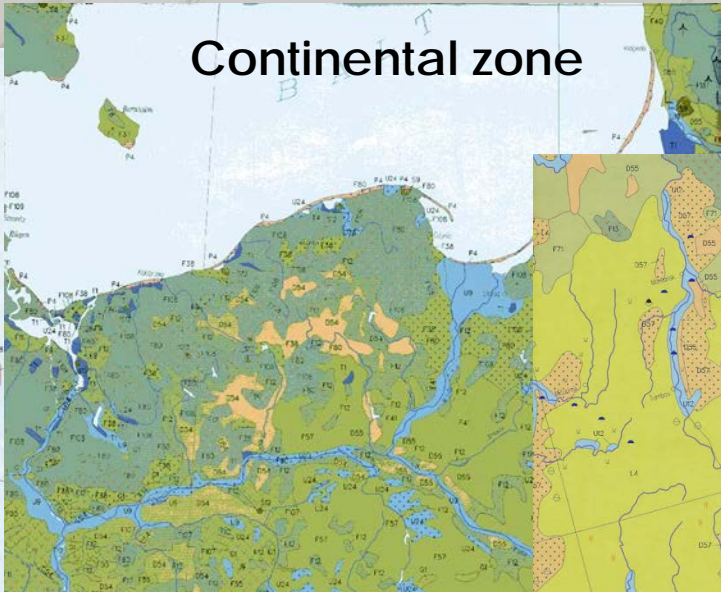
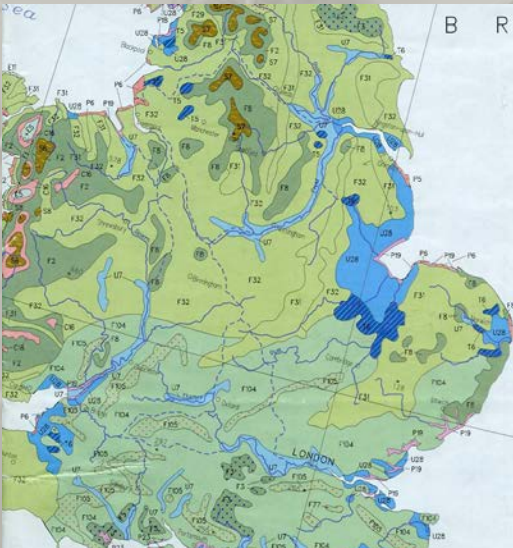
Floodplain Meadows for the Future
York 9-10 May 2017

Lanzarapole, Macedonia
photo by Nico de Bruin





Ardennes, Belgium
photo by John Janssen



Atlantic zone

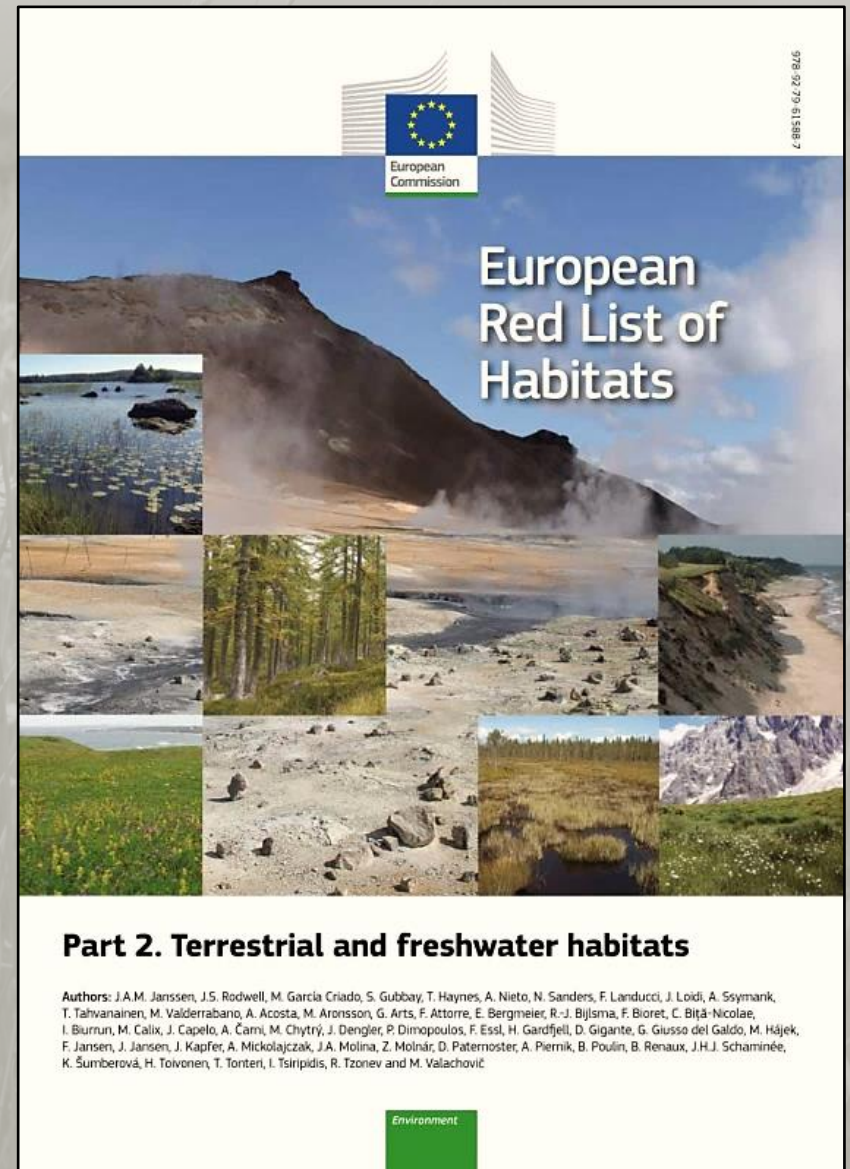
Continental zone

Steppe zone

Sub-Mediterranean zone

European Red List of Habitats

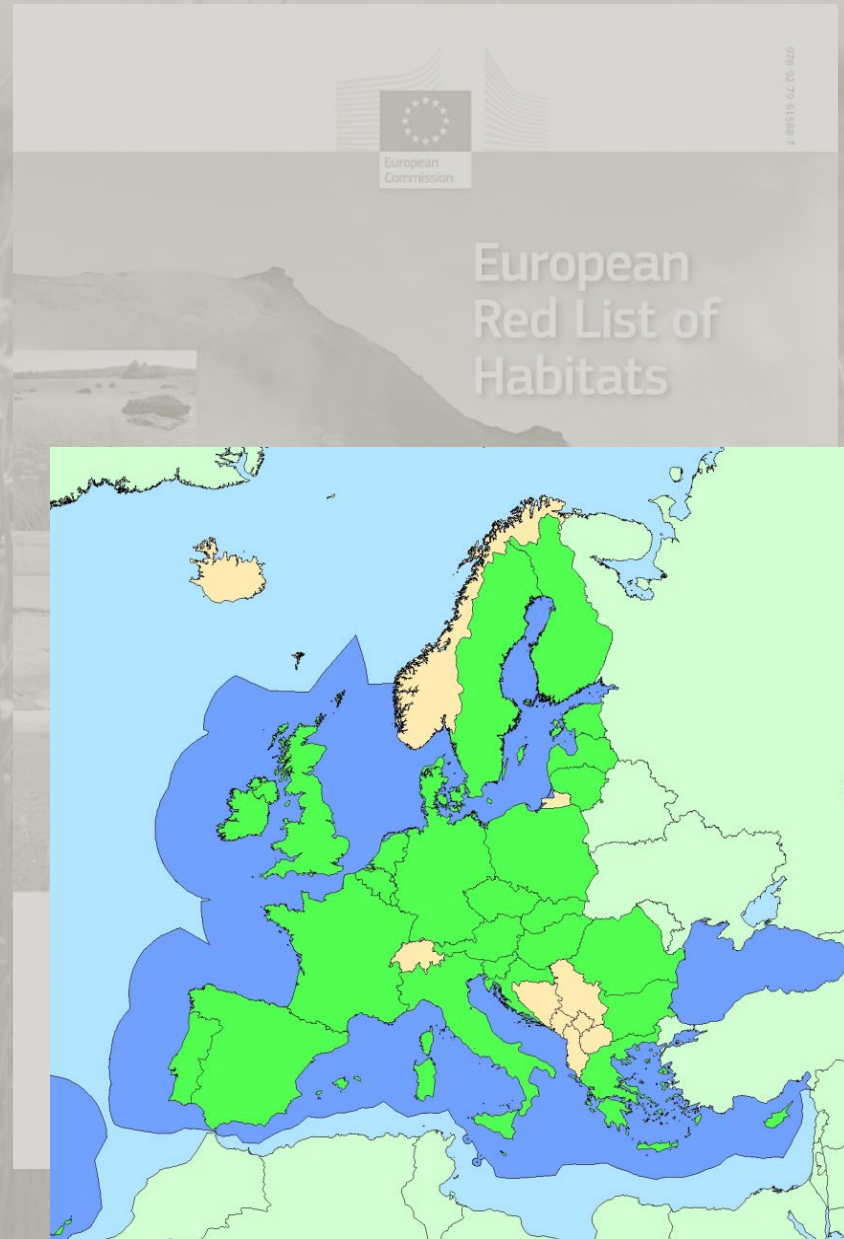
First Red List assessment of all European terrestrial & marine habitats



European Red List of Habitats

First Red List assessment of all European terrestrial & marine habitats

Covering EU28 plus Switzerland, Norway, Iceland & Balkans

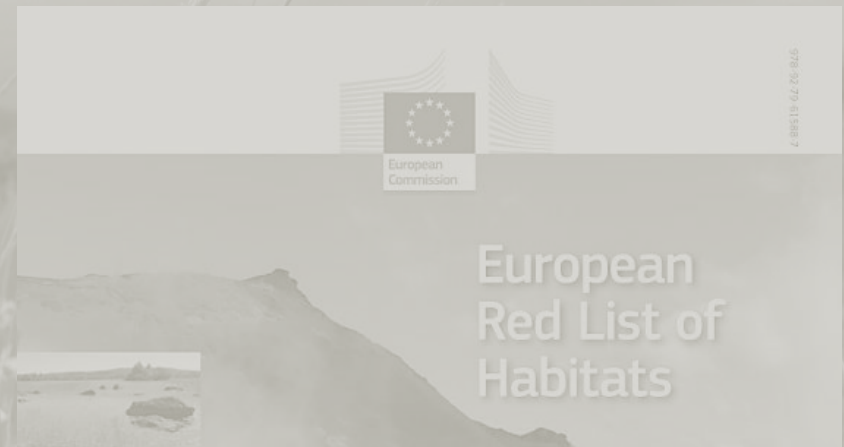


European Red List of Habitats

First Red List assessment of all European terrestrial & marine habitats

Covering EU28 plus

Using modified IUCN categories



A. Reduction in quantity **				
	CR	EN	VU	NT
over the past 50 years	≥ 80%	≥ 50%	≥ 30%	25-30%
B. Restricted geographic distribution				
	CR	EN	VU	NT
Range AND declining or threatened	≤ 2,000 km ²	≤ 20,000 km ²	≤ 50,000 km ²	close to VU
Area (10x10 grids) AND declining or threatened	≤ 2	≤ 20	≤ 50	close to VU
C/D. Reduction in quality				
	CR	EN	VU	NT
Reduction in abiotic and/or biotic quality over the last 50 years	severe decline	intermediate decline	slight decline	close to VU

European Red List of Habitats

First Red List assessment of all European terrestrial & marine habitats

Covering EU28 plus

Using modified IUCN categories

& EUNIS habitat typology

European Red List of Habitats - Grasslands Habitat Group

E3.4a Moist or wet mesotrophic to eutrophic hay meadow

Summary

These meadows are typical of moist, sometimes seasonally inundated, nutrient-rich soils on floodplains and in brook-valleys throughout lowland and sub-montane Europe. The herbage has traditionally been cut for hay, though there is sometimes light grazing in late summer and autumn. The vegetation is often species-rich with a diverse associated invertebrate fauna attracted by the abundance of flowers. Major threats are abandonment of traditional management with agricultural intensification, changes in the hydrology, urbanisation and associated infrastructure development. Decline in quantity and quality of this habitat during the last century have been considerable all over Europe. Continuation of traditional hay making and safeguarding the appropriate hydrological conditions, both on site and at a landscape level, are the key factors for conserving this habitat type, though the effectiveness of these measures can be problematic where the habitat is much fragmented and the typical biota lost from the wider landscape.

Synthesis

Based on a reduction in quantity over the past 50 years, this habitat type is endangered both in EU28 and EU28+ (EN). Furthermore, a substantial reduction in biotic and abiotic quality results in a nearly threatened status (NT).

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Endangered	A1	Endangered	A1

Sub-habitat types that may require further examination

No sub-types in need of further examination. The reduction in quantity and quality refers to the whole range of the habitat type.

Habitat Type

Code and name

E3.4a Moist or wet mesotrophic to eutrophic hay meadow



Hay meadow near Lanzaropole (Macedonia) with red-flowering *Geum coccineum*
(Photo: Nico de Bruin).



Calthion palustris hay meadow in the eastern Ardennes (Belgium) with flowering *Lychis flos-cuculi* and *Ranunculus acris* (Photo: John Janssen).

Habitat description

The habitat comprises various wet to moist grasslands that are influenced by a high water table level and

E3.4a Moist or wet mesotrophic to eutrophic hay meadow

on moist, sometimes seasonally-inundated nutrient-rich soils

in floodplains & brook valleys

throughout lowland and sub-montane Europe

maintained by mowing for hay ± grazing

E3.4a Moist or wet mesotrophic to eutrophic hay meadow

Summary

These meadows are typical of moist, sometimes seasonally inundated, nutrient-rich soils on floodplains and in brook-valleys throughout lowland and sub-montane Europe. The herbage has traditionally been cut for hay, though there is sometimes light grazing in late summer and autumn. The vegetation is often species-rich with a diverse associated invertebrate fauna attracted by the abundance of flowers. Major threats are abandonment of traditional management with agricultural intensification, changes in the hydrology, urbanisation and associated infrastructure development. Decline in quantity and quality of this habitat during the last century have been considerable all over Europe. Continuation of traditional hay making and safeguarding the appropriate hydrological conditions, both on site and at a landscape level, are the key factors for conserving this habitat type, though the effectiveness of these measures can be problematic where the habitat is much fragmented and the typical biota lost from the wider landscape.

Synthesis

Based on a reduction in quantity over the past 50 years, this habitat type is endangered both in EU28 and EU28+ (EN). Furthermore, a substantial reduction in biotic and abiotic quality results in a nearly threatened status (NT).

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Endangered	A1	Endangered	A1

Sub-habitat types that may require further examination

No sub-types in need of further examination. The reduction in quantity and quality refers to the whole range of the habitat type.

Habitat Type

Code and name

E3.4a Moist or wet mesotrophic to eutrophic hay meadow



Hay meadow near Lanzaropole (Macedonia) with red-flowering *Geum coccineum*
(Photo: Nico de Bruin).



Calthion palustris hay meadow in the eastern Ardennes (Belgium) with flowering *Lychis flos-cuculi* and *Ranunculus acris* (Photo: John Janssen).

Habitat description

The habitat comprises various wet to moist grasslands that are influenced by a high water table level and

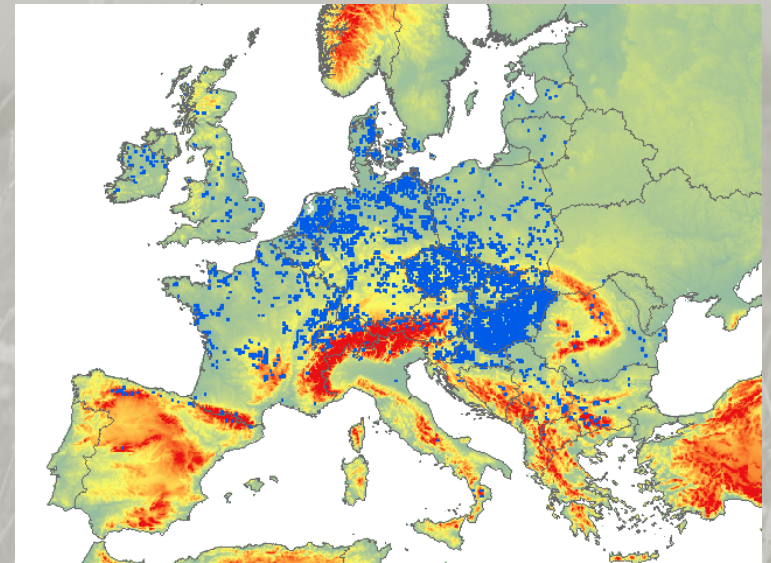
E3.4a Moist or wet mesotrophic to eutrophic hay meadow

on moist, sometimes seasonally-inundated nutrient-rich soils

in floodplains & brook valleys

throughout lowland and sub-montane Europe

maintained by mowing for hay \pm grazing

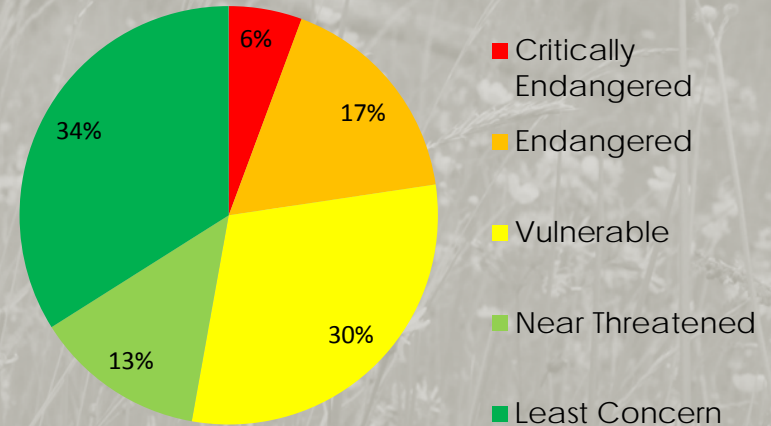


Point-source data from European Vegetation Archive

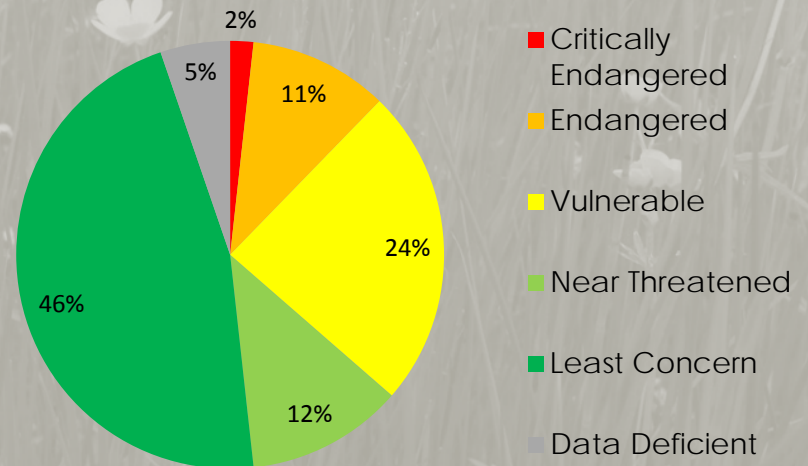
Estimated total extent = 9600km

E3.4a Moist or wet mesotrophic to eutrophic hay meadow

All EU28 grasslands



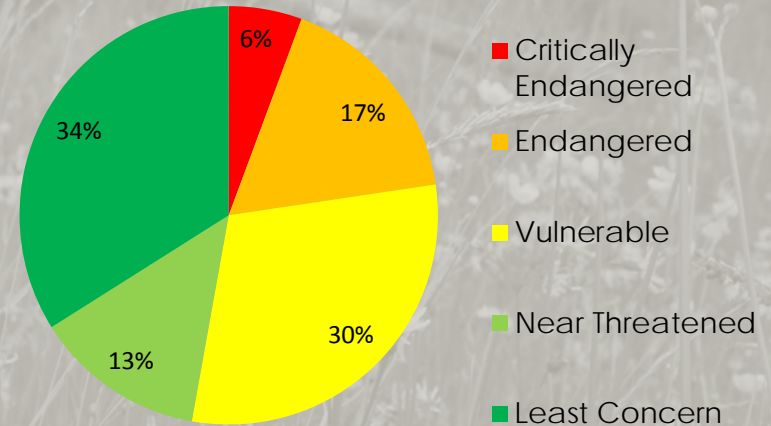
All EU28 terrestrial habitats



E3.4a Moist or wet mesotrophic to eutrophic hay meadow

Assessed as Endangered across Europe

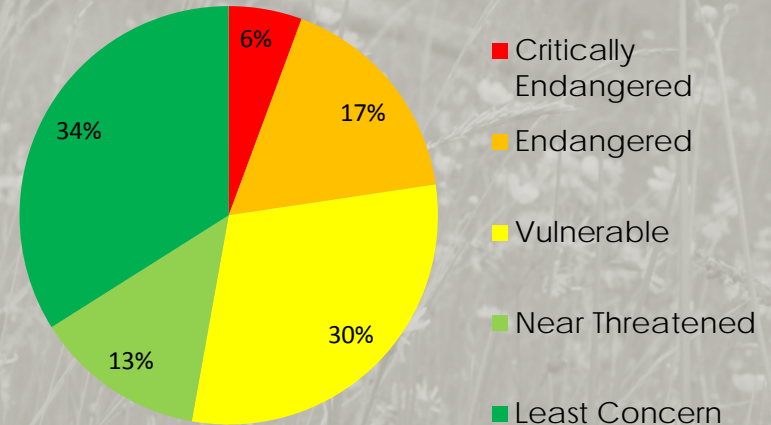
All EU28 grasslands



E3.4a Moist or wet mesotrophic to eutrophic hay meadow

Assessed as Endangered across Europe on basis of recent loss $\geq 50\%$

All EU28 grasslands

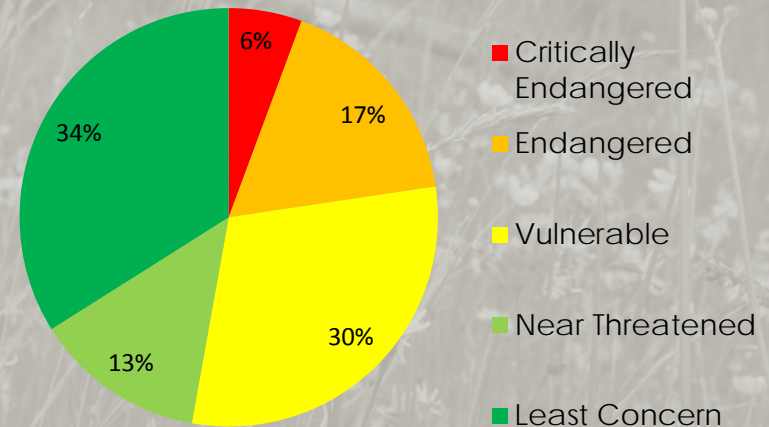


A. Reduction in quantity **				
	CR	EN	VU	NT
over the past 50 years	$\geq 80\%$	$\geq 50\%$	$\geq 30\%$	25-30%
B. Restricted geographic distribution				
	CR	EN	VU	NT
Range AND declining or threatened	$\leq 2,000$ km ²	$\leq 20,000$ km ²	$\leq 50,000$ km ²	close to VU
Area (10x10 grids) AND declining or threatened	≤ 2	≤ 20	≤ 50	close to VU
C/D. Reduction in quality				
	CR	EN	VU	NT
Reduction in abiotic and/or biotic quality over the last 50 years	severe decline	inter- mediate decline	slight decline	close to VU

E3.4a Moist or wet mesotrophic to eutrophic hay meadow

Assessed as Endangered across Europe on basis of recent loss $\geq 50\%$

All EU28 grasslands



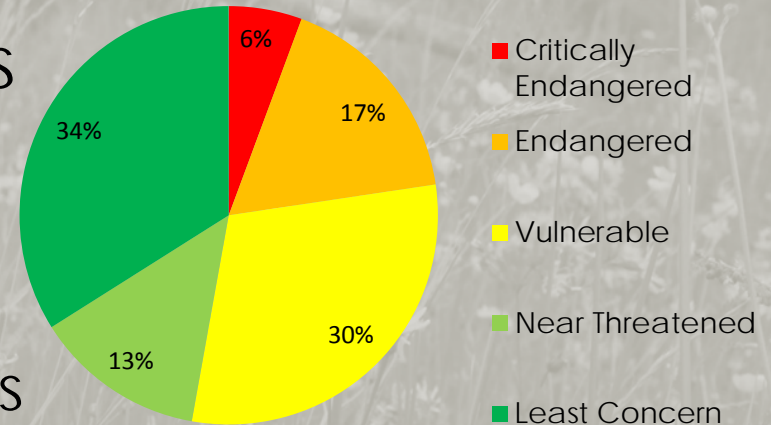
A. Reduction in quantity **				
	CR	EN	VU	NT
over the past 50 years	$\geq 80\%$	$\geq 50\%$	$\geq 30\%$	25-30%
B. Restricted geographic distribution				
	CR	EN	VU	NT
Range AND declining or threatened	$\leq 2,000$ km ²	$\leq 20,000$ km ²	$\leq 50,000$ km ²	close to VU
Area (10x10 grids) AND declining or threatened	≤ 2	≤ 20	≤ 50	close to VU
C/D. Reduction in quality				
	CR	EN	VU	NT
Reduction in abiotic and/or biotic quality over the last 50 years	severe decline	inter- mediate decline	slight decline	close to VU

and with decline in quality close to 50% across 50% of extent

E3.4a Moist or wet mesotrophic to eutrophic hay meadows

Assessed as Endangered across Europe along with 8 other grasslands

All EU28 grasslands

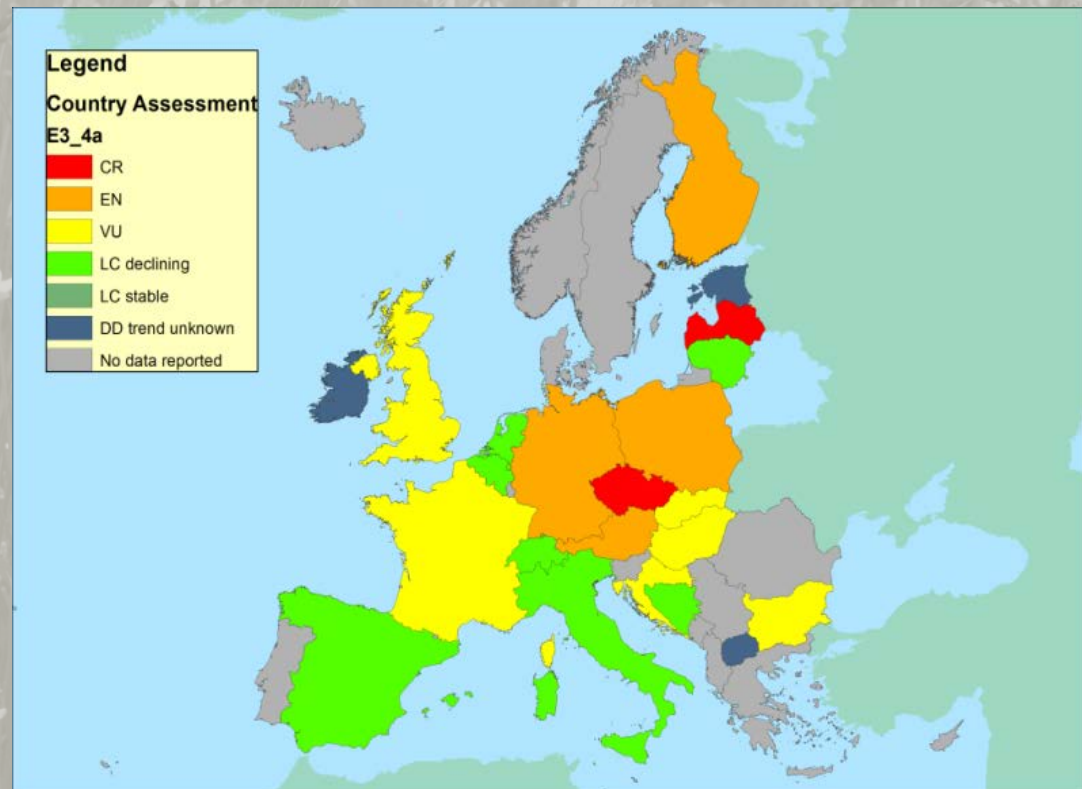


- E1.5c Cyrno-Sardean oromediterranean siliceous dry grassland
- E1.9a Oceanic to subcontinental inland sand grassland on dry acid and neutral soils
- E1.9b Inland sand-drift and dune with siliceous grassland
- E1.B Heavy-metal grassland in Western and Central Europe
- E1.F Azorean open dry, acid to neutral grassland
- E3.4a Moist or wet mesotrophic to eutrophic hay meadow
- E3.4b Moist or wet mesotrophic to eutrophic pasture
- E3.5 Temperate and boreal moist or wet oligotrophic grassland
- E6.3 Temperate inland salt marsh

E3.4a Moist or wet mesotrophic to eutrophic hay meadows

Assessed as Endangered across Europe

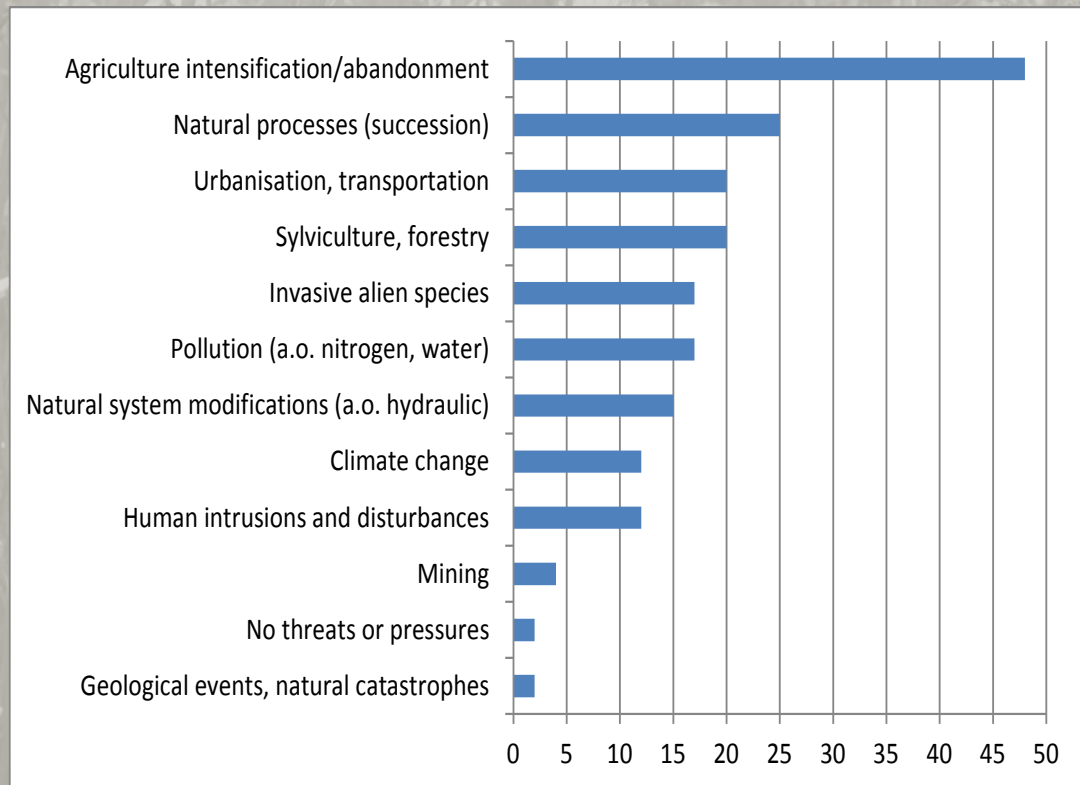
but varying in the degree of threat from country to country



E3.4a Moist or wet mesotrophic to eutrophic hay meadows

Assessed as Endangered across Europe

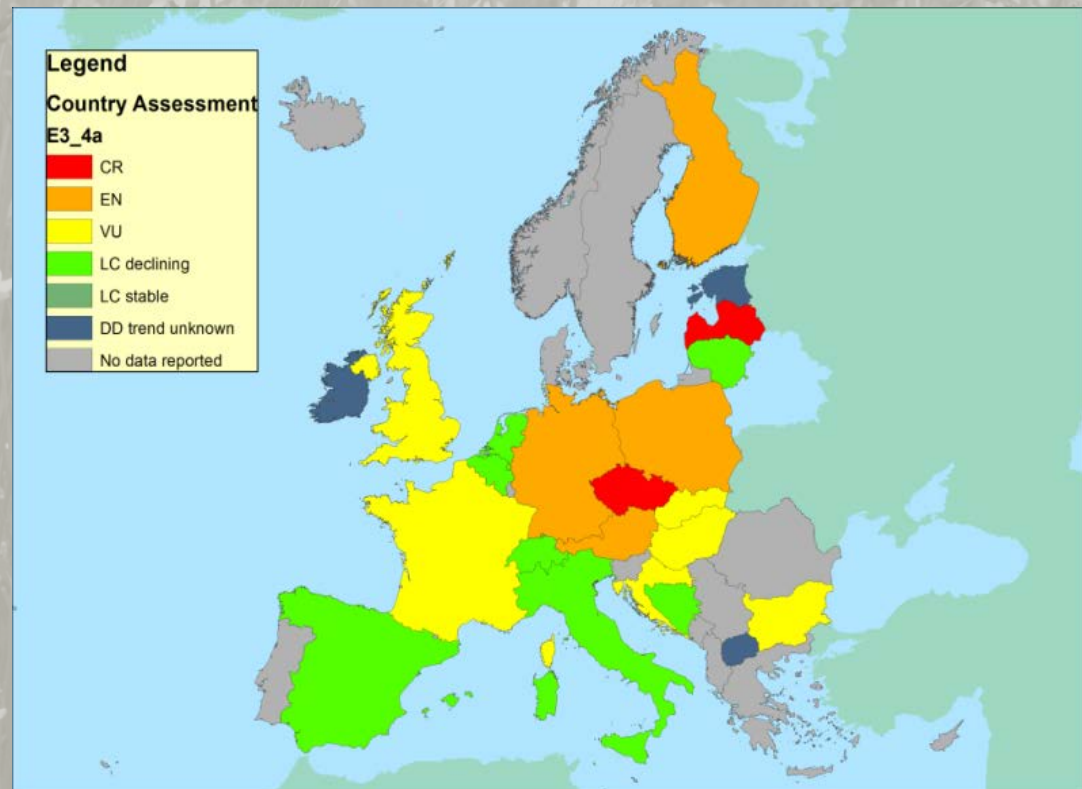
and threatened by agricultural intensification, land drainage and development



E3.4a Moist or wet mesotrophic to eutrophic hay meadows

Assessed as Endangered across Europe

but with prospects of restoration in many places



E3.4a Moist or wet mesotrophic to eutrophic hay meadows

Assessed as Endangered across Europe

but with prospects of restoration in many places

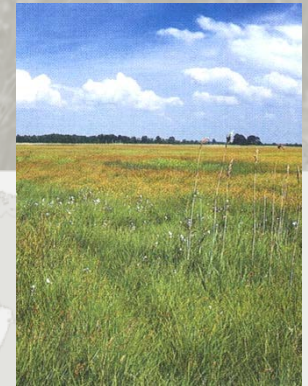
with intervention over time



France



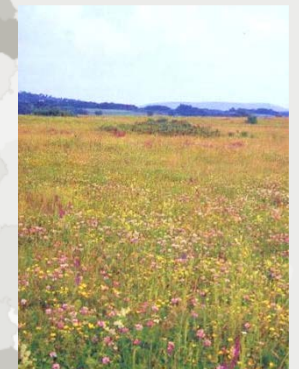
Czech Republic



Lithuania



Slovenia



Hungary

Nature's Ups & Downs in a Changing Europe



Photo by Wolfgang Suske
& Matija Franković

Nature's Ups & Downs in a Changing Europe

There may be
no single European market
but there will remain
a single European environment

Further information on and outputs from the Red List can be found at
http://ec.europa.eu/environment/nature/knowledge/redlist_en.htm

Nature's Ups & Downs in a Changing Europe



Photo by Wolfgang Suske
& Matija Franković

Nature's Ups & Downs in a Changing Europe

Even after Brexit
the European significance of
your own floodplain meadows
will remain

A complete overview of European vegetation, including flood plain meadows, can be found in a special issue of *Applied Vegetation Science* for which Wiley have issued a press release at <http://www.wiley.com/WileyCDA/PressRelease/pressReleaseld-129936.html>

Nature's Ups & Downs in a Changing Europe



Photo by Wolfgang Suske
& Matija Franković

Nature's Ups & Downs in a Changing Europe

Even after Brexit
the need for the knowledge,
experience & vision
of other Europeans will remain

For details of the European Vegetation Survey at whose annual conferences you can meet ecologists and conservationists from all over Europe, see <http://www.euroveg.org>



A black and white photograph of a large group of people, mostly men in suits, gathered in a garden or conservatory. They are engaged in conversations. The background is filled with various plants, including palm trees. The image has a semi-transparent overlay with text.

Nature's Ups & Downs in a Changing Europe

With thanks to 153 European
Red List colleagues