EU Grassland Watch

A new operational EO-based service for habitat monitoring in Natura 2000 sites

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EUGW Project Partners

space 4 environment

Project lead / Indicators

gisat

EO processing

bilbomática
an Altia Company

Online platform / DB operations

VIT

System optimisation

JOANNEUM RESEARCH

EO Calibration / Validation

SPECTO NATURA
Earth Observation Consultancy

User federation

SLU | ARTDATABANKEN

ALSO Space

Workshops & Communication

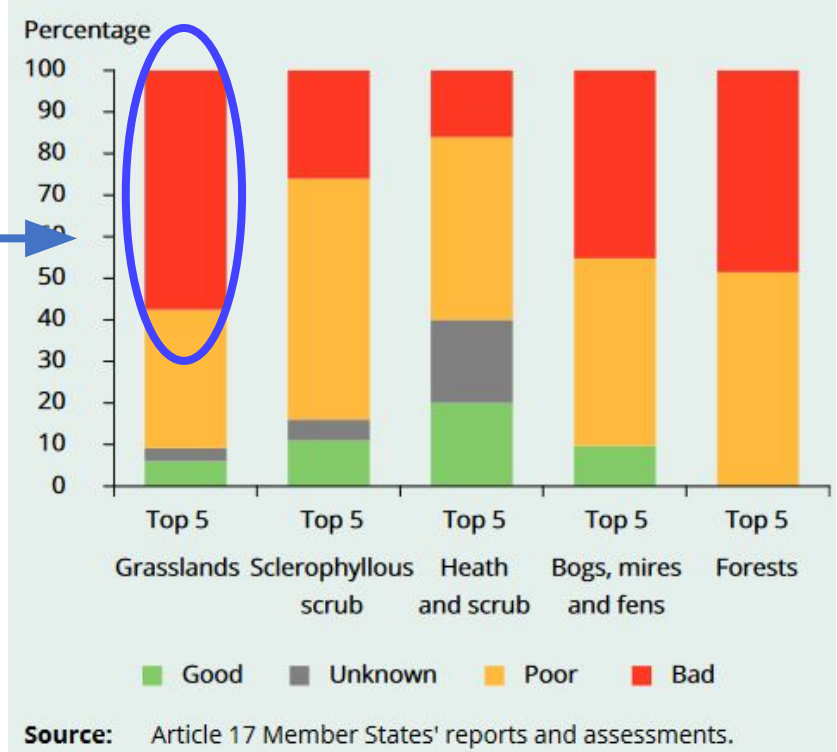
Expert knowledge and stakeholder engagement

ile SAS Institute of Landscape Ecology Slovak Academy of Sciences

BirdLife INTERNATIONAL
EUROPE AND CENTRAL ASIA

Why grasslands?

- High biodiversity value
- Threatened by changes in land use and land management intensity
- Grasslands have the highest share of “bad” conservation status
- EUGW will provide analytical information
  - Identification of land-cover changes as well as indications for intensification, extensification and abandonment
  - Support to Article 17 reporting
    - Provision of spatial and quantitative data
    - Information tool to support MS reporting
    - Compliance monitoring for DG ENV
  - Support to site managers
    - Intuitive tools to easily access actionable information



Art. 17 (2013 – 2018): Conservation Status of Main habitat groups

The main reasons for the poor status of grasslands important for pollinators are grassland abandonment, natural succession, intensive grazing and the application of fertilisers (SON 2020)

Grasslands are impacted by changes in land use intensity

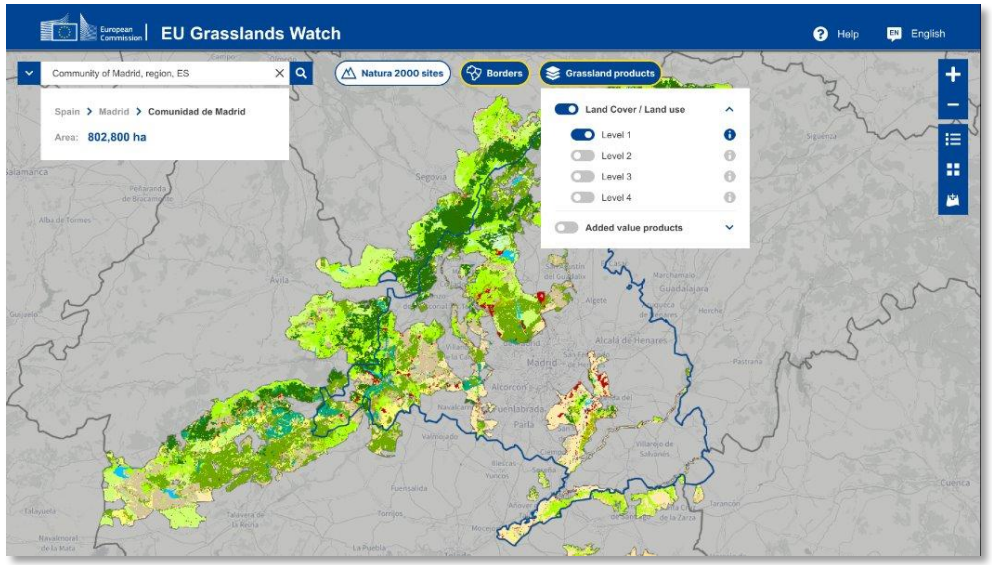
Photograph: Norbert Nagel / Abandoned building near Pula / CC BY-SA 2.0

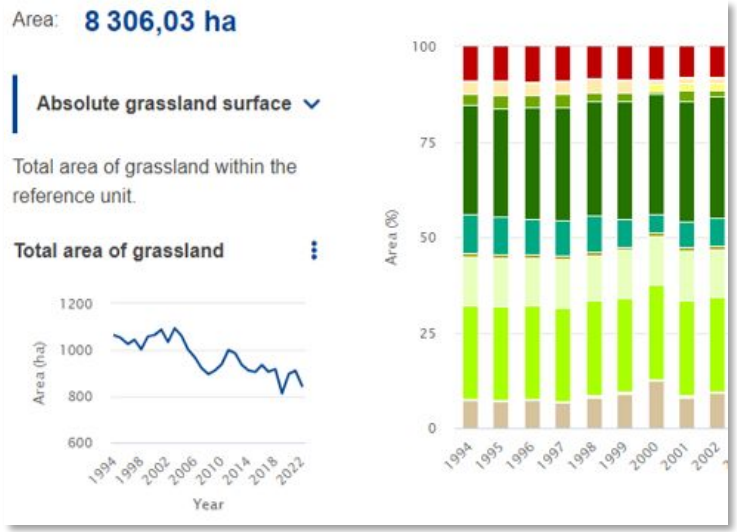
Photograph: James T M Towill / Mowing for silage / CC BY-SA 2.0

Land use intensity

EU Grassland Watch – Objectives

- Provision of an **operational service** for delivering timely **information on the status, changes and pressures in Natura 2000** (grassland dominated) sites (**1994 – 2025**)
    - *16 430 sites (**Habitats Directive Annex 1**, type 6xxx & sites with grassland characteristics)*
    - *From classification of grasslands to characterisation of grasslands*
    - *Building on experiences from the project's predecessor COP4N2K prototype*





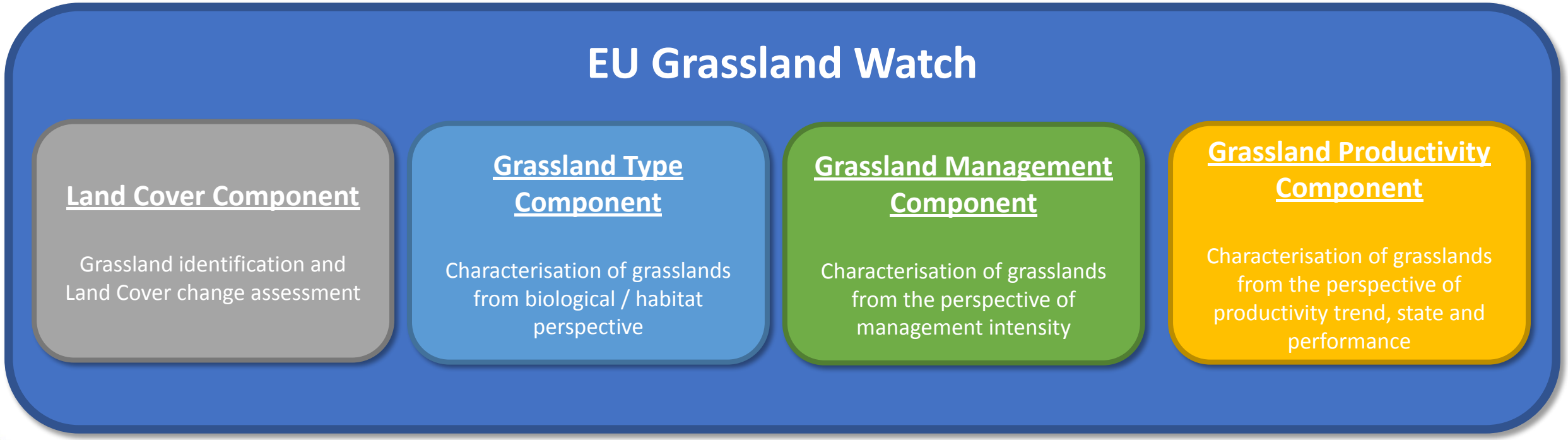
Characterising grasslands

- Which nomenclature?
- Which attributes?
- Which biomes?

- EAGLE approach
  - Separation of land cover & land use
  - Description of features instead of classification

- Capture grassland type, productivity and management practices

EU Grassland Watch Components



From Classification to Characterisation

Land Cover

- Sealed
- Periodically herbaceous
- **Permanent herbaceous**
- Broadleaved trees
- Coniferous trees
- Low-growing woody vegetation
- Bare and sparsely vegetated areas
- Glaciers and perpetual snow
- Water

Grassland Characterisation

Grassland Type

GT1 – dry grassland
GT2 – mesic grassland
GT3 – wet and seasonally wet grassland
GT4 – alpine and sub-alpine grasslands
GT5 – forest clearings
GT6 – inland salt steppes and salt marshes
GT7 – sparsely wooded grassland

Grassland Management

GM1 – permanent / no management
GM2 – permanent / extensive management
GM3 – permanent / intensive management
GM4 – temporary / intensive management
GM5 – other grasslands

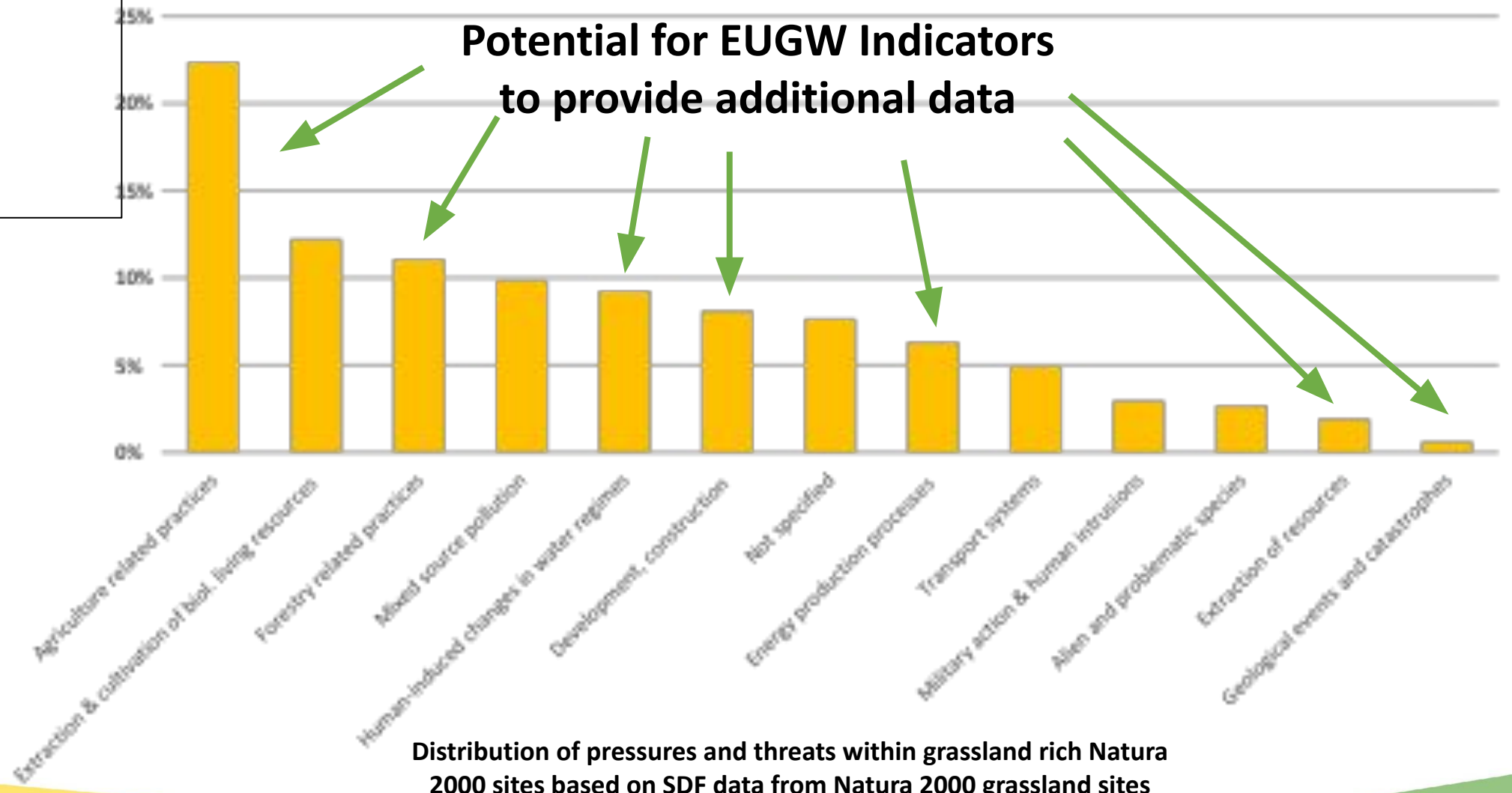
Grassland Productivity

GP1: Decreasing productivity
GP2: Moderate decline of productivity
GP3: Stressed grassland
GP4: Stable productivity
GP4: Increasing productivity

How to make use of the data—EUGW indicators

- Must be derivable from EO processing and the agreed nomenclature
- Must be useful for Natura 2000 site monitoring and reporting under the Habitat Directive, i.e. should reflect important (changing) ecological properties of grasslands
- Must be understandable - simplicity over complexity
- Should allow the extraction of bespoke information (select AOI, time period, …)
- Temporal resolution of indicators needs to match scale of ecological and/or land-use induced changes
- Absolute values preferred -> Aggregation to user needs

Natura 2000 SDF / Art.17 reporting: Pressures and Threats

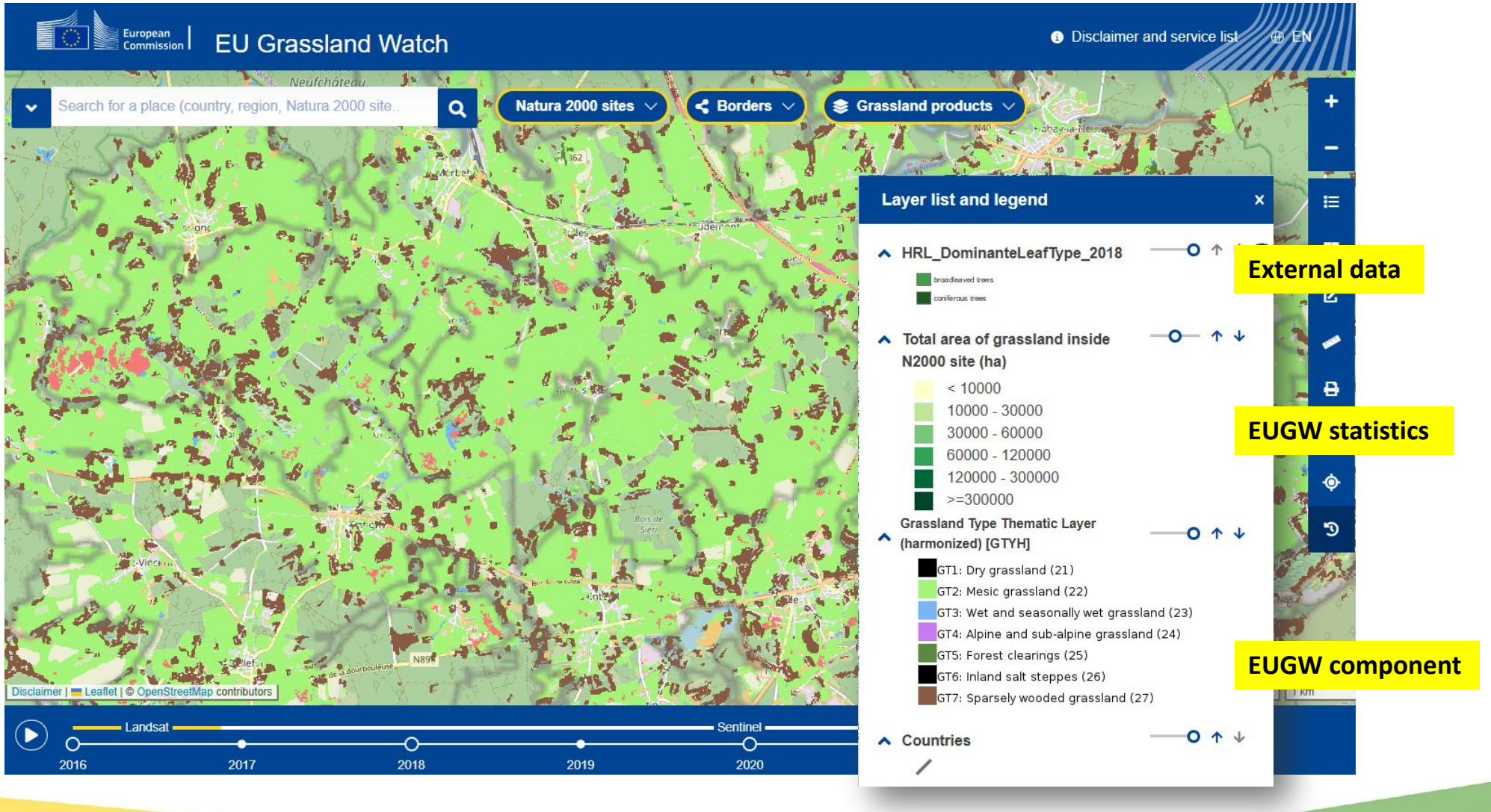


Distribution of pressures and threats within grassland rich Natura 2000 sites based on SDF data from Natura 2000 grassland sites selected for EUGW.

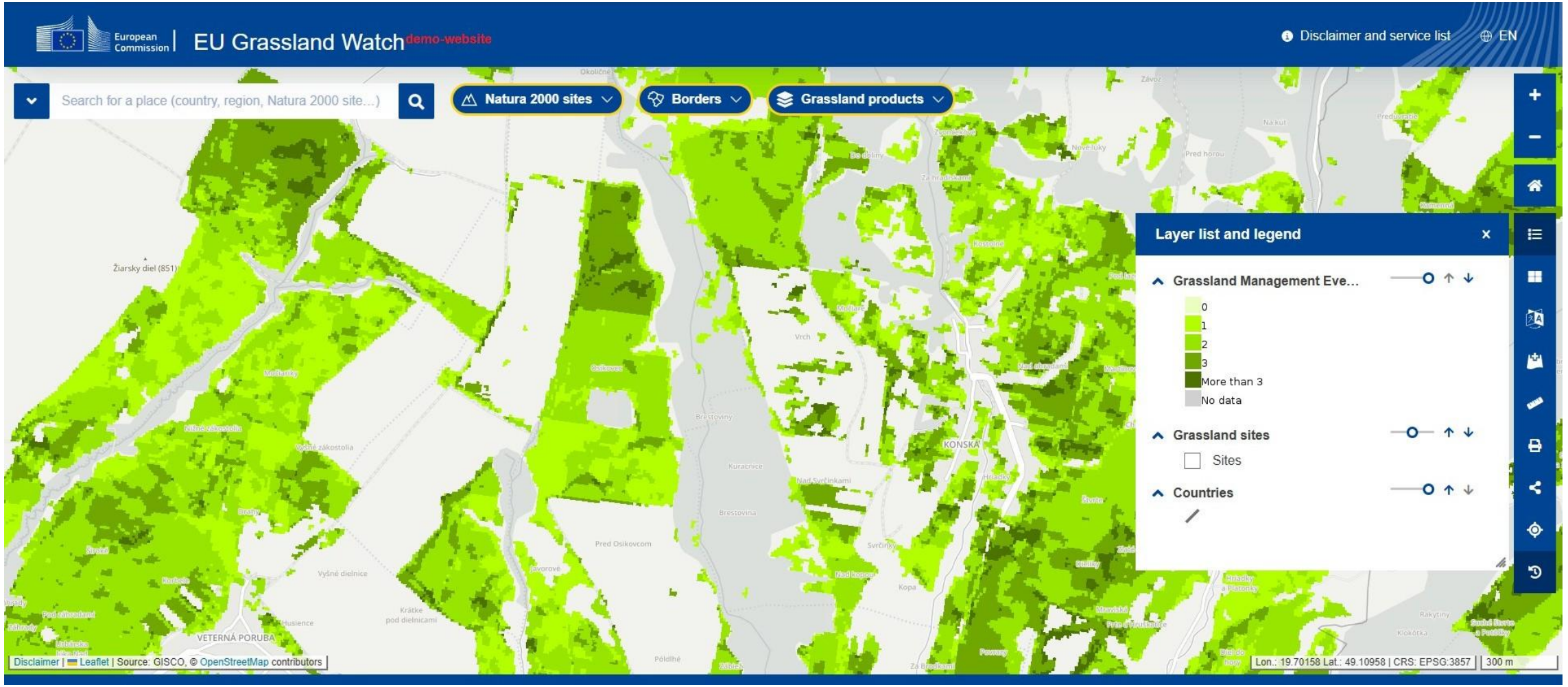
Web platform

- **Operational** data for **16.430** N2000 sites from **1994 to 2025**
- **Free and open** access, possibility to download area of interest (AOI)
- Intuitive design
- Actionable insights within 3 clicks

Web platform



Web platform



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Thank you!

Questions?

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