THE GOULANDRIS NATURAL HISTORY MUSEUM
GREEK BIOTOPE/WETLAND CENTRE

The need for a JOINT ecosystem connectivity assessment in the Balkan Mediterranean territory: the role of wetlands

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Interreg
EUROPEAN UNION
Balkan-Mediterranean
WetMainAreas

Transnational Cooperation areas 2014 – 2020
Balkan-Mediterranean

Specific objective 2.1: Biodiversity: promoting ecological connectivity and transnational ecosystems' integration **of the Transnational Cooperation Program Balkan – Mediterranean 2014–2020.**

EU Cooperation areas
Other cooperation areas

0   500 Km

EXPECTED RESULT –OUTPUTS
Improve scientific knowledge and help authorities, spatial planners, and developers to take informed decisions and to cooperate towards **ecosystem integration and sustainability.**

Wetland Mapping Layers & Connectivity Assessment
across the BalkanMed territory
– Albania
– Bulgaria
– Cyprus
– FYROM
– Greece

Why to assess the role of wetlands in ecosystem connectivity?

In line with Aichi Target 11

"By 2020, at least 17 % of terrestrial and inland water areas and 10 % of coastal and marine areas, **especially areas of importance for biodiversity and ecosystem services, are conserved through** effectively and equitably managed, ecologically representative and **well-connected systems of protected areas** and other effective area-based conservation measures, and integrated into the wider landscape and seascape".

According to EU Habitats (Article 10) and Birds Directives (Article 4) WETLANDS are stepping stones & key landscape features that improve the coherence, connectivity and resilience of the NATURA 2000 network.

⮑ WetMainAreas Project assesses landscape connectivity (regional, national, transnational level), in order to:

- **Reveal well-connected areas with high importance for biodiversity and ecosystem services** (having potentials to provide habitats for biodiversity).

- **Locate isolated areas**, but still with potentials to provide habitats for biodiversity.

- **Examine the spatial relationship patterns** between the well-connected areas and isolated areas, with wetlands and with the network of Protected Areas –PAs (Natura 2000 sites/Emerald sites).

- **Assess the connectivity of the PAs network and wetlands' role in it.**

- **Assess and locate areas of the wider landscape**, where 'area-based' conservation measures could be applied, to benefit the PAs network.

Do we have updated Wetland catalogues?

Although so important, there is no general overview of the BalkanMed wetlands' spatial distribution and of the biodiversity they host. Data may exist but often they are not easily accessible and occur in non-compatible formats. Lack of comprehensive knowledge can lead to inadequate wetland protection and poor planning.

➲ **WetMainAreas Project improves knowledge on wetland ecosystems** i.e. creation of detailed wetland layers and publishing through web.

A knowledge base
for BalkanMed wetland ecosystems

- Detailed wetland layer based on remote sensing techologies, existing geospatial datasets, in situ data. A geodatabase will be publically shared via web services.

Examples of how the WetMainAreas Wetland layer (blue dashed polygons) improves the CORINE Land Cover datasets

Nestos Delta (GR)
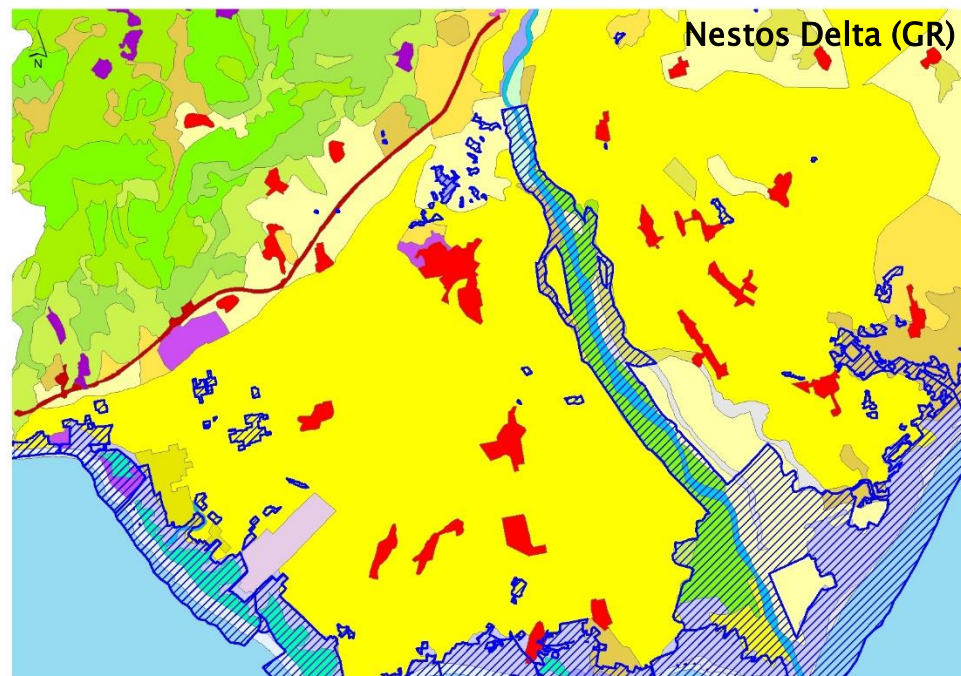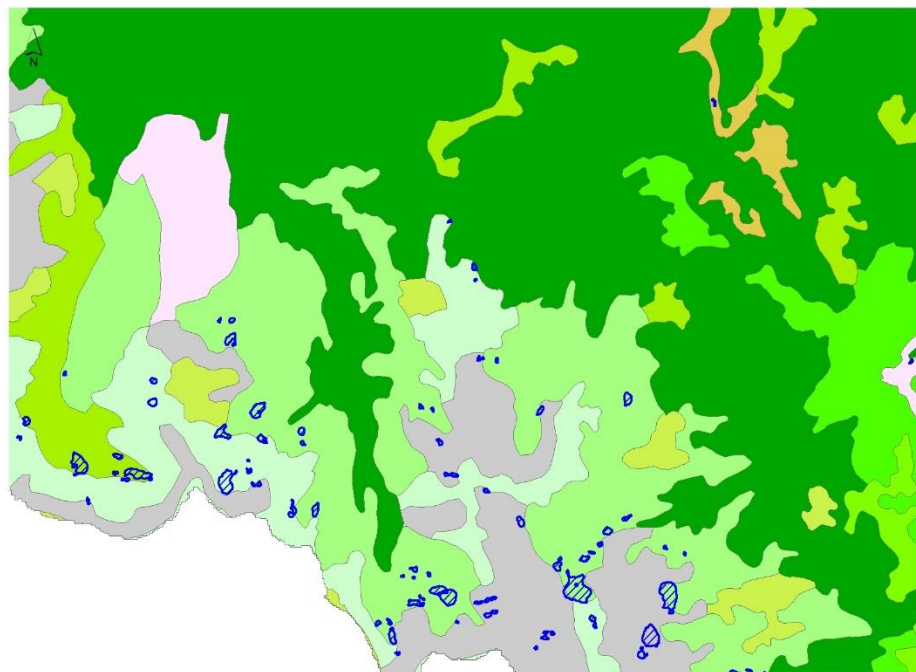
Integration of biodiversity & pressures from human influences in the assessment of the wider landscape
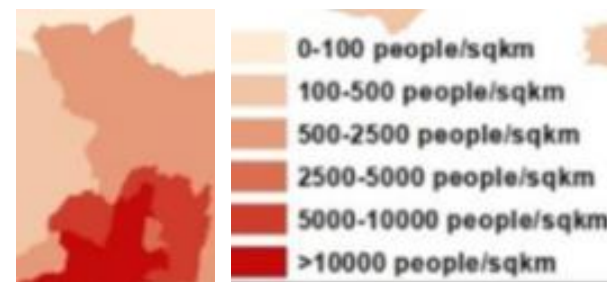
- **Biodiversity parameters**

i.e. habitats/species/birds distribution data and conservation status/population trends derived from National Reports for the implementation of EU Habitat (Art. 17) and Birds (Art. 12) Directives, N2K SDFs, etc).
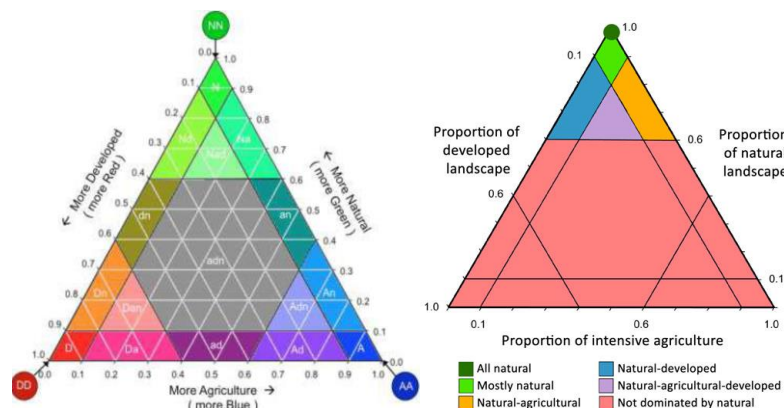
Biodiversity State
- 5: Excellent
- 4: Adequate
- 3: Average
- 2: Inadequate

- **Population density**

Population growth is considered as a key driver associated with food and energy consumption patterns, biodiversity loss, degradation of natural ecosystems and water pollution.

- 0-100 people/sqkm
- 100-500 people/sqkm
- 500-2500 people/sqkm
- 2500-5000 people/sqkm
- 5000-10000 people/sqkm
- >10000 people/sqkm

- **Nature domination patterns**

Human–natural interface zones within natural background, derived from landscape mosaic maps based on the relative proportions of LC classes (natural, agriculture, developed)
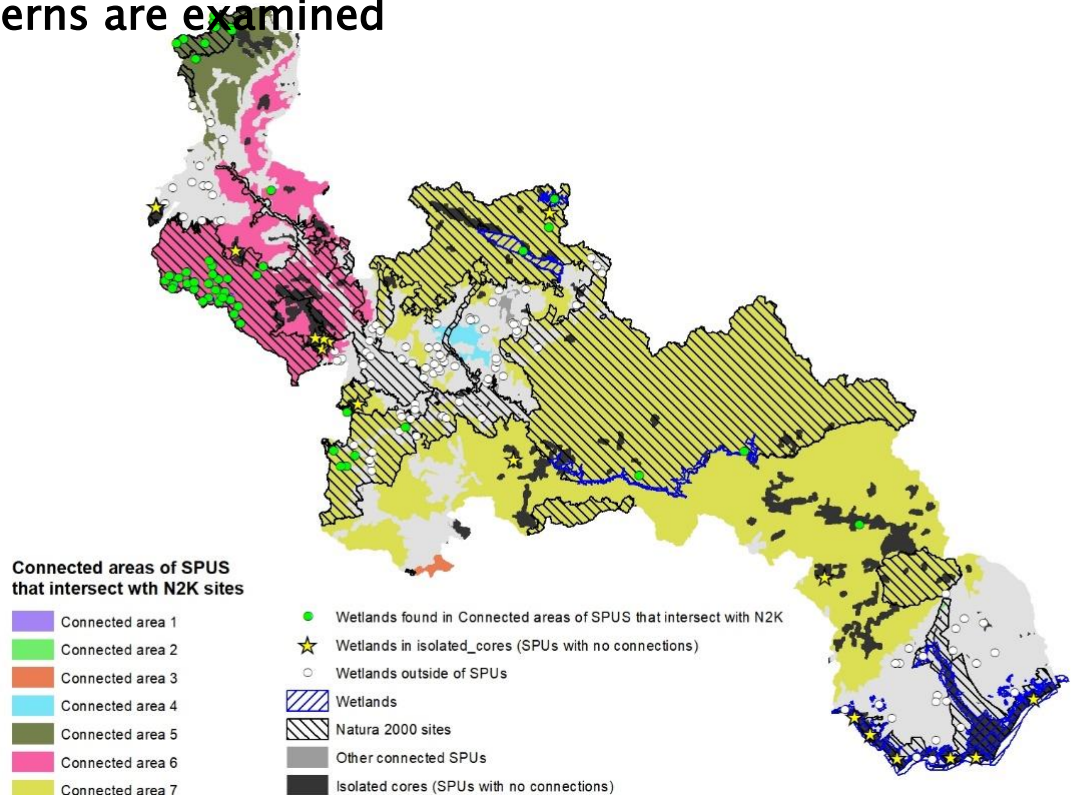
Proportion of developed landscape

Proportion of natural landscape

Proportion of intensive agriculture

- All natural
- Mostly natural
- Natural-agricultural
- Natural-developed
- Natural-agricultural-developed
- Not dominated by natural

Examining spatial relationships between wetlands, N2K sites and well-connected areas of high biodiversity value
to define conservation, restoration and protection measures

Different spatial relationship patterns are examined

- ❏ N2K sites surrounded by extended natural areas where habitats for species are well maintained (Ideal pattern)

- ❏ N2K sites almost coincide with well-connected areas of high biodiversity value, restricting species "survival" inside their boundaries

- ❏ the stepping stone pattern of isolated wetlands found either in unconnected areas (wetlands in isolated cores) or outside connected areas

Connected areas of SPUS that intersect with N2K sites

- Connected area 1
- Connected area 2
- Connected area 3
- Connected area 4
- Connected area 5
- Connected area 6
- Connected area 7

- ● Wetlands found in Connected areas of SPUS that intersect with N2K
- ★ Wetlands in isolated_cores (SPUs with no connections)
- ○ Wetlands outside of SPUs
- ▨ Wetlands
- ▧ Natura 2000 sites
- Other connected SPUs
- Isolated cores (SPUs with no connections)

Example from pilot area: Mesta (BG) – Nestos (GR) river basin

From Joint assessments to Joint action plans

Unprotected lands, where human presence, development or activities occurring at some level, may have high importance for biodiversity. Their mapping provide baseline knowledge in planning the responses to threats.

Even if a protected network is well-connected at landscape level, conservation objectives may not be assured in the long term without joined action plans and without the commitment of stakeholders for promoting the integration of protected areas in vast regions.

 ⊃ WetMainAreas Project is mapping and assessing connectivity & encourages joined action plans to address the transnational challenge for ecological connectivity and transnational ecosystems' integration in the Balkan Mediterranean territory.

Thank you for your attention!

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