

BLUE CARBON IN EU CLIMATE POLICY



BIODIVERSITY
WORKING GROUP

27 NOVEMBER 2018
09:00-10:30
ASP 3H1
EUROPEAN PARLIAMENT

CHAired BY

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MEMBER OF THE
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“A context for the Blue Carbon ecosystems in the EU: Initial results coming from the project LIFE Blue Natura”

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1. The BC ecosystems in the EU
2. The size of the carbon sink
3. The project LIFE Blue Natura

THE EUROPEAN PARLIAMENT INTERGROUP ON
"CLIMATE CHANGE, BIODIVERSITY & SUSTAINABLE DEVELOPMENT"



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@LIFEBLUENATURA
#BLUECARBON





Anthropogenic CO₂

Fossil Fuels: 7.8 GtC

Soil use change: 1.2 GtC

TOTAL: 9.0 GtC / year



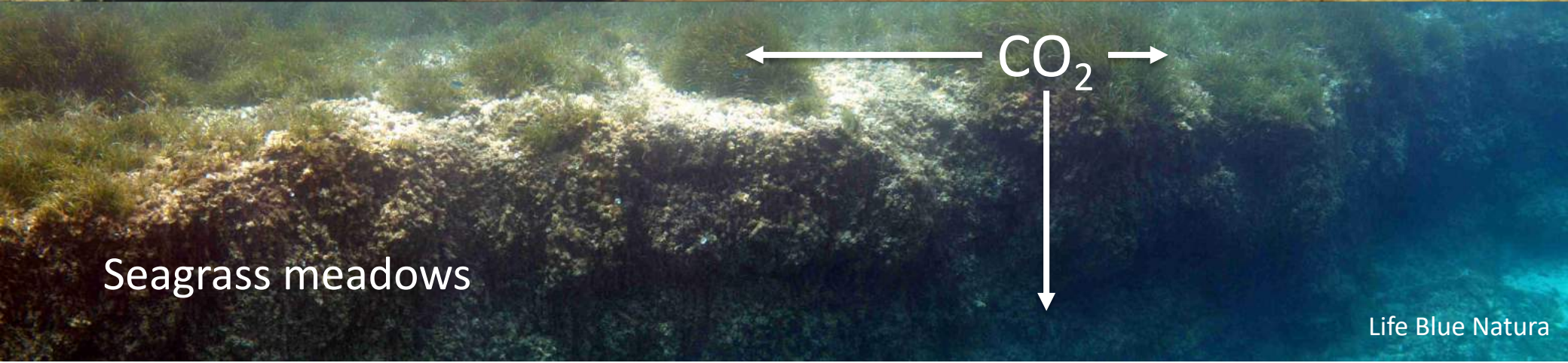
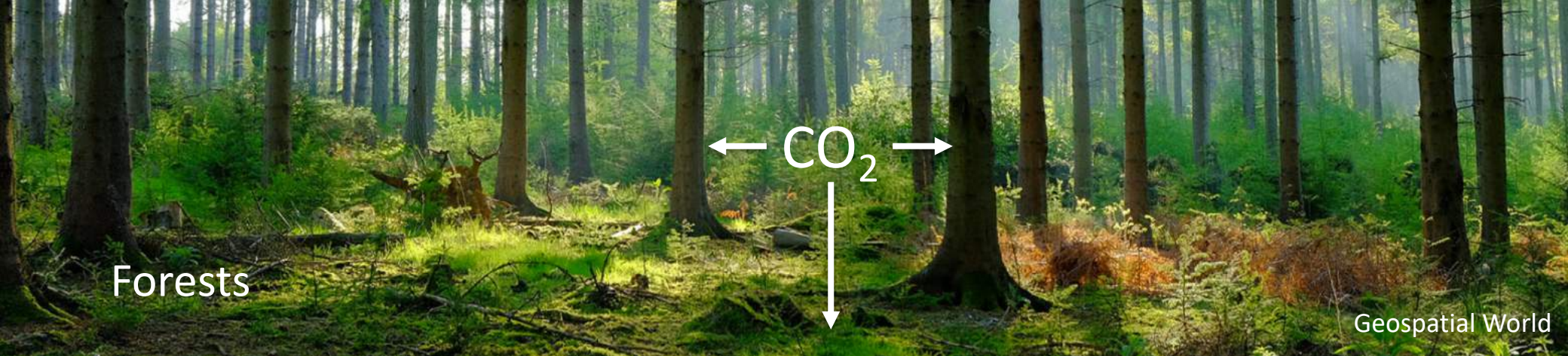
Oceans
2.4 GtC / year

Forests + Soils
2.6 GtC / year

Atmosphere
4.0 GtC / year



Simplified from IPCC AR5 and various sources



1. The BC ecosystems in the EU



Saltmarshes in Europe

- Coastal brackish to saline wetlands
- Reed, grasses, shrubs, and herbs
- High biodiversity
- High productivity
- Ecology driven by the degree of inundation and temperature
- Lack of detailed information of global abundance in the EU
- Rough estimate: **5,000 km²**

1. The BC ecosystems in the EU



Dijkema et al 1984

Boorman 2003



Saltmarshes in Europe

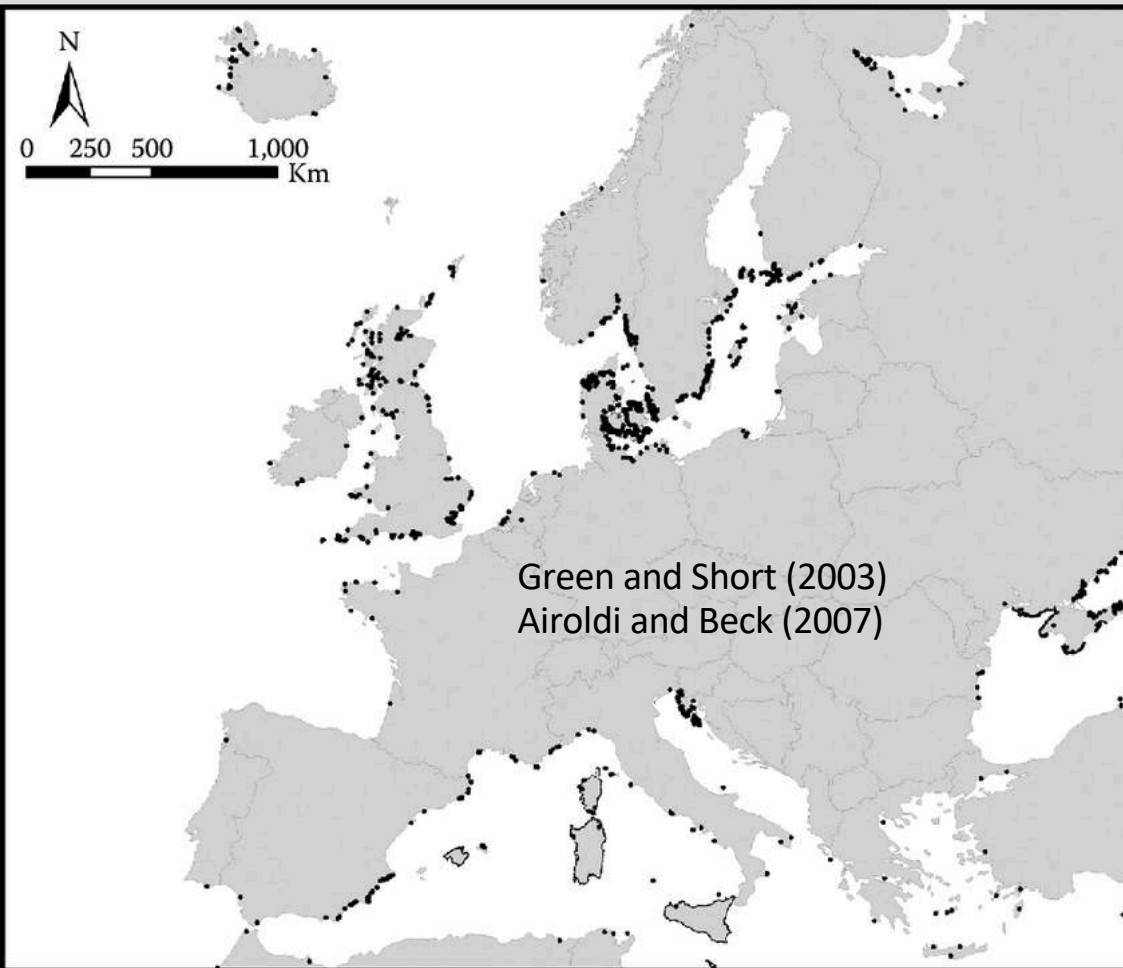
Around **5,000** km² in
4 main regions:

Baltic and Boreal Regions
North Atlantic
South Atlantic
Mediterranean

- Major complexes
- Isolated sites > 500 ha
- Small < 500 ha / frequent
- - - Small < 500 ha / scattered

Dijkema et al 1984, Mcowen et al 2017, Sousa et al 2017,
Davidson et al 2018

1. The BC ecosystems in the EU

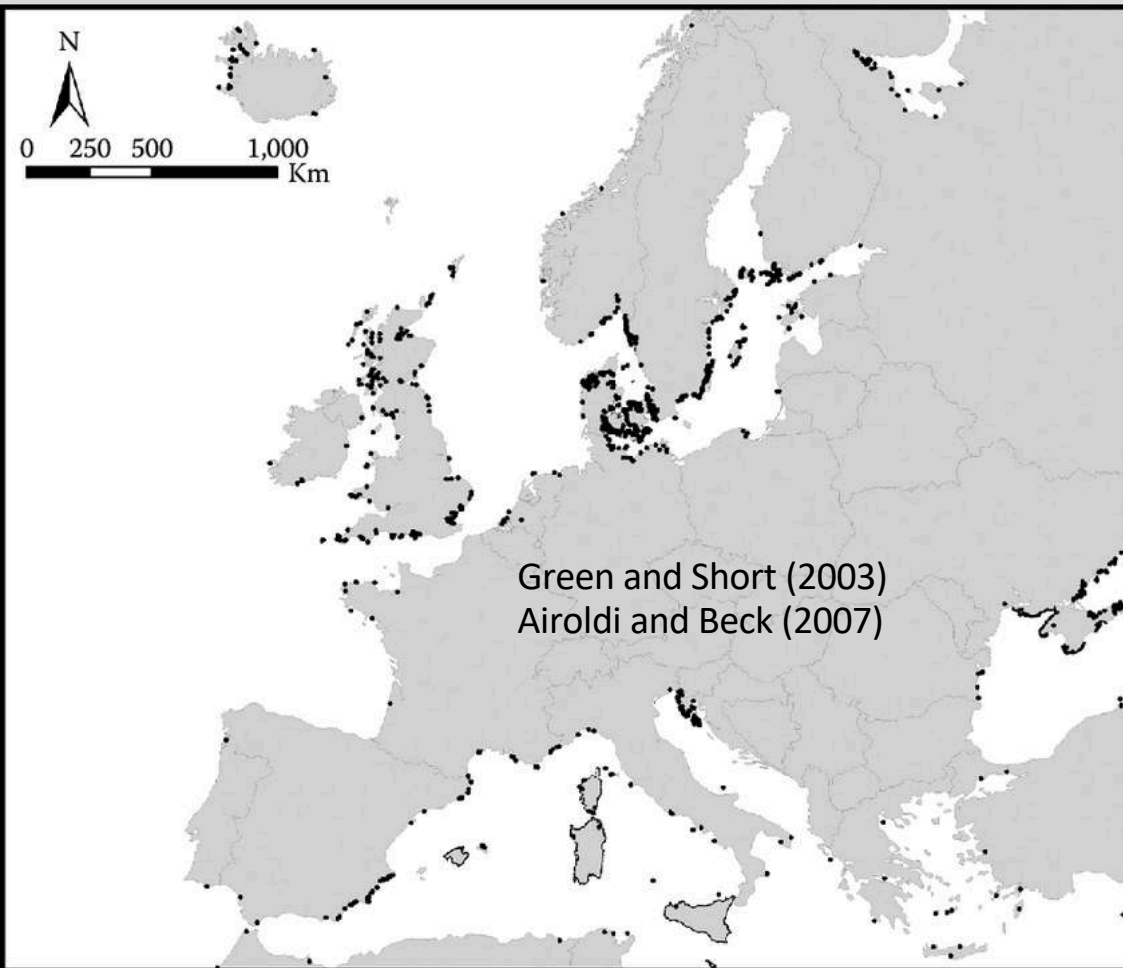


Seagrasses in Europe

- Temperate to boreal areas
- From intertidal up to 40 m depth
- High biodiversity
- High productivity
- Ecology driven by irradiance, temperatura, and hydrodynamism

- Profound lack of detailed information of global abundance in the EU
- Estimates for Posidonia from 12,000 to 50,000 km²

1. The BC ecosystems in the EU



Seagrasses in Europe

- Half of the Mediterranean coast length has not data on seagrass presence or extension (21,471 km)
- Information on the extension of smaller seagrasses is virtually lacking
- A compromise value of 30,000 km² is used for the estimates that follow

2. EU Blue Carbon sink size



The most wanted / needed numbers... are not the ones below 😊

	Stocks		Sequestration	
	tCO ₂ /ha	GtCO ₂ /EU BC	tCO ₂ /ha yr	MtCO ₂ /yr EU BC
Seagrasses	2,500	7.5	3.7	11.0
Saltmarshes	550	0.3	5.5	2.8
Total EU BC	3,050	7.7	9.2	14.0

Source: Mateo et al 1997; Nelleman et al 2009; Mateo et al 2006; Mateo & Serrano 2012; Pendleton et al 2012; LIFE Blue Natura 2018

2. EU Blue Carbon sink size



Contextualization / comparisons

> 1 year of USA CO₂ emissions

~ 1 year of China CO₂ emissions

10x CO₂ emissions of Germany

30x CO₂ emissions of Spain

57% of the carbon stocks in all EU forests

> Areal stock than the peatlands of the EU

3x the areal sequestration rates of EU forests

5x the areal sequestration rates of EU forest soils

2. EU Blue Carbon sink size



Karen Graham



Manu San Felix

Loss

2% annual loss of BC ecosystems ~ 90 Mt CO₂

Similar to the annual CO₂ emissions of Belgium

> Annual CO₂ sequestration by Spanish Forests

150-200 M€ / year



Life Blue Natura



Ambrose Clancy



Even if very rough, the estimates presented here strongly suggest that even if only based on the carbon sequestration service...

The conservation and restoration of EU seagrass meadows and saltmarshes could be economically sustainable

... we are only starting to learn how



CUANTIFY
EXTENSION OF BC
ECOSYSTEMS AND
THE SIZE OF THE
SINK

ASSESS AND ESTIMATE
THE POSSIBLE
EVOLUTION OF THE
CARBON
SEQUESTRATION
SERVICE

EXPLORE AND
PROMOTE BC
CONSERVATION/
RESTORATION
PROJECTS

CREATE **FINANCIAL**
INSTRUMENTS:
VERIFICATION STDS.
AND PROJECTS
CATALOGUE

DISSEMINATION
ADMINISTRATIONS,
PUBLIC AND PRIVATE
SECTORS, PUBLIC IN
GENERAL



JUNTA DE ANDALUCIA
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Agencia de Medio Ambiente y Agua



Cofinanciador:



Quantifying = Inventorying Andalusian Blue Carbon

➤ Project facts:

11 sites

50 stations

160 seagrass and saltmarsh soil cores, 0.5 to 6 m long

45 aboveground biomass samples

> 200 m of soil profiles processed

20 variables analysed...

... in more than 7,000 soil samples



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Cofinanciador:



Andalusian Climate Law

Measures to Combat Climate Change



TITLE VI: EMISSIONS MITIGATION

CHAPTER I: Objetivos y medidas de mitigación de emisiones

Article 37, item 2:

“It will be considered **carbon emissions offset projects**, all those dealing with the afforestation, reforestation, restoration, and conservation of the extant forests and wooded lands, littoral ecosystems, those dealing with the conservation or restoration of wetlands, seagrass meadows and analogous áreas ...”

Approved the 8th October 2018



LIFE Blue Natura

(14CCM/ES/000957)

Andalusian Blue Carbon for Climate Change Mitigation

Quantification and Valorisation Mechanisms

2015 - 2019



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