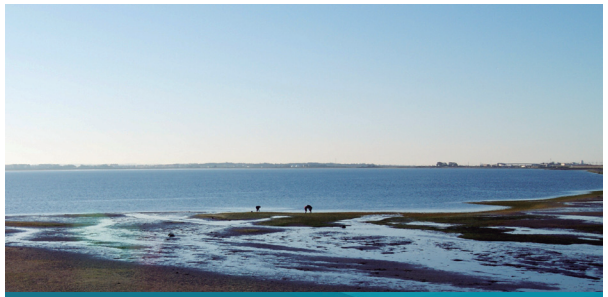
# THE ECOSYSTEMS OF THE LIFE BLUE NATURA PROJECT



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## TIDAL MARSHES

Tidal marshes (flood zones with direct and daily influence from tides) are areas of major ecological importance and are the keys to coastal stability. They are also one of the marine habitats with the highest capacity for carbon sequestration in the sediment  mainly thanks to the marsh plants and seagrasses that form part of these ecosystems.

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## SEAGRASSES

These vascular plants with flowers and fruits are also of great ecological importance. They extend along the coastal seabed, and some of them can be found in tidal marshes. In Andalusia there are 4 species: *Posidonia oceanica*, *Cymodocea nodosa*, *Zostera marina*, and *Zostera noltii*.

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Life

# LIFE BLUE NATURA

## JOIN BLUE NATURA AND COMBAT CLIMATE CHANGE

Find out about the objectives, partners, actions,  and results of the project at www.life-bluenatura.eu, by subscribing to the newsletter and following the project on social networks.

www.life-bluenatura.eu
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(LIFE2014/CCM/ES000957)

**Blue carbon in Andalusia and its role in the mitigation of climate change**

Beneficiary member:

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Agencia de Medio Ambiente y Agua

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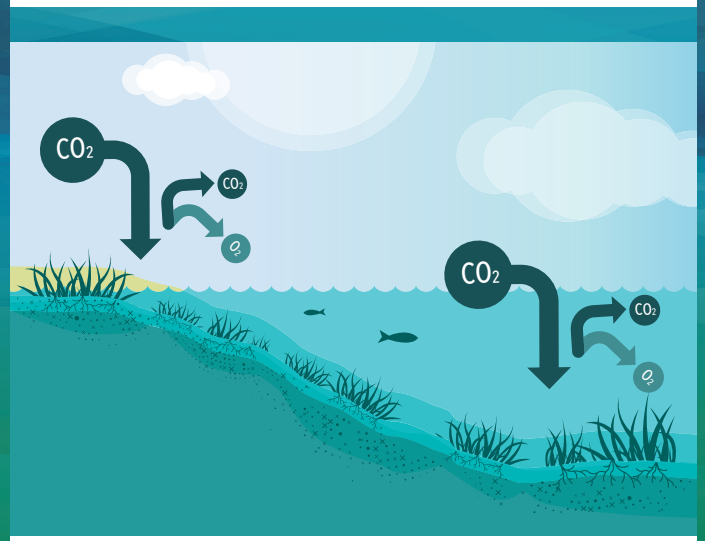
CEPSA

# BLUE CARBON, THE UNKNOWN TREASURE OF ANDALUSIA

## PHOTOSYNTHESIS AND CARBON

Plants, both aquatic and terrestrial, are primary producers that are developed thanks to light, water, nutrients, and $CO_2$ (carbon dioxide), which are obtained, through photosynthesis, from the environment in which they find themselves (atmosphere or aquatic environment).

With this process, they obtain energy and release $O_2$ into the medium, while carbon is used to form their structures. In addition, they release $CO_2$ as part of their metabolism.




## $CO_2$ IS THE MAIN GREENHOUSE GAS

## CARBON SINKS

Longest-living primary producers retain much of the carbon that they set both into their living structures and also beneath them, accumulating it over many years, thus forming what are known as carbon sinks.

In the terrestrial environment, large and tropical forests constitute the main carbon sinks (called green carbon sinks). In the oceans, this role is mainly represented by tidal marshes, mangroves and marine seagrasses. Carbon retained in these marine and coastal ecosystems is known as Blue Carbon.

In Andalusia, tidal marshes and seagrasses occupy thousands of hectares spread along the Atlantic and Mediterranean coasts.

## CARBON HELD BY MARINE ECOSYSTEMS IS KNOWN AS BLUE CARBON

## BLUE CARBON AND CLIMATE CHANGE

These marine and coastal ecosystems harbour a great biodiversity and are emblematic of the natural heritage of our coasts. From among the ecosystem services that they generate, the most outstanding is given by their key role in mitigating climate change by reducing the $CO_2$ accumulated in the atmosphere and sequestering it for many years. The study, maintenance, and conservation of these habitats are therefore reaffirmed as a priority.

It is estimated that these ecosystems fix 50% of the carbon buried in the marine sediments of the planet and their annual carbon sequestration rate is 10 times higher than that of mature tropical forests.

However, if these ecosystems are degraded, then their surface extension diminishes or disappears, all the retained carbon stock is returned to the global cycle in the form of $CO_2$, thereby contributing towards an increase in climate change.

## LIFE BLUE NATURA PROJECT

In August 2015, under the Climate action subprogram of the Life program, the EU approved the Life Blue Natura project, whose main objectives are to ascertain and to spread awareness of how much carbon the blue carbon habitats in Andalusia have retained, how much they incorporate annually, and what economic benefits are derived from their maintenance, restoration, and protection. It is, furthermore, a crucial moment, since the Climate Change Law is being developed in Andalusia, which includes coastal and marine habitats as carbon sinks and includes a catalogue of restoration projects of these habitats that can be offered within the Andalusian System of Emission Compensation (SACE).

*The LIFE Blue Natura project is coordinated by the Environmental Board of the Regional Government of Andalusia. The Environment and Water Agency, the Higher Council for Scientific Research (CEAB-CSIC), the International Union for the Conservation of Nature (IUCN-Med) and The Hombre y Territorio Association (HyT) are partners. The duration of this project is from 2015 to 2019, inclusive. The project has an overall budget of € 2,513,792. It is funded by the European LIFE program and co-financed by CEPSA.*

## THE LIFE BLUE NATURA PROJECT STRIVES TO ASCERTAIN THE VALUE OF THESE CARBON SINKS