Actions

- Implementation of measures in 10 pilot Mediterranean wetlands selected to trial management measures and analyse their potential to mitigate climate change.

- Characterisation and measurement of carbon flows in wetlands. Design of an experimental protocol to assess the sink potential of the pilot wetlands, taking into account their state of conservation, and to plan vegetation, soil and water management measures. At each wetland, measurements are taken to assess the effects of these measures on primary production and respiration involving the main gaseous forms of carbon (i.e. CO2 and CH4). These will be used to estimate the balances of carbon-based GHG emissions/capture and the role of the microbial community primarily responsible for the biogeochemical processes taking place in wetlands.

- Management of pilot wetlands through vegetation, soil and water management. Creation of various management measures tailored to the ecological characteristics and state of conservation of wetlands with the aim of maximising carbon capture/storage capacity.

- Development of new methodologies in the voluntary carbon market to compensate the carbon footprint of private sector entities through a range of wetland management and conservation measures, incentivising investment in conserving these ecosystems.

- Creation of a guide to managing Mediterranean wetlands, that will cover both coastal and inland wetlands and have a climate perspective. Development of training materials to familiarise wetland managers with the most appropriate management techniques.

- Communication, training and networking campaigns to publicise the project and identify synergies.
AREAS of action

Ten pilot wetlands have been selected for the study at locations in Castile-La Mancha, Castile-León and the Community of Valencia. The wetlands fall under various types characteristic to the Mediterranean biogeographical region where they are found, including coastal wetlands, inland freshwater wetlands, and inland saline wetlands. During the initial phase, the plan is to characterise the physical, chemical, hydromorphological and biological conditions in the wetlands.

Community of Valencia
- Parque Natural de la Marjal de Pego-Oliva (Alicante and Valencia)
- Parque Natural de l’Albufera de València (Valencia)
- Marjal dels Moros (Valencia)
- Parque Natural del Prat de Cabanes-Torreblanca (Castellón)

Castile-La Mancha
- Laguna de Manjavacas (Cuenca)
- Laguna de Alcahozo (Ciudad Real)
- Reserva Natural de las Lagunas Grande y Chica de Villafranca de los Caballeros (Toledo)
- Laguna de Tírez (Toledo)

Castile-León
- Laguna de Boada (Palencia)
- Laguna de La Novís (Palencia)

Objectives

LIFE Wetlands4Climate seeks to establish guidelines for the management of Mediterranean wetlands to foster their capacity as carbon sinks while maintaining their ecological integrity and function so they can continue to provide all the services of a healthy ecosystem.

- Carbon sinks
  Maximise the carbon sequestration capacity of Mediterranean wetlands and reduce their GHG emissions – and in particular the emissions of those gases that have the greatest capacity to generate global warming, such as methane – through wetland conservation and management that focuses on climate change mitigation.

- Transfer and replicability of results
  Transfer lessons learned in wetlands management to other Mediterranean wetlands in Europe and the rest of the Mediterranean region, making use of the management parameters and climate change indicators obtained from other wetlands with similar characteristics.

- Private sector
  Involve the private sector in financing climate change mitigation and adaptation measures with a focus on water and wetland management.

- Paris Agreement
  Contribute to achieving the Paris Agreement goals through better management and conservation of the EU’s wetlands.

- European objectives
  Integrate wetlands management and conservation into EU objectives on climate change mitigation and biodiversity conservation.

WETLANDS FOR CLIMATE a natural ally against climate change

Time is running out to achieve the goal of reducing global carbon emissions by at least 55% compared with 1990 levels by 2030 and so maintain global warming below 2 °C. In this context, wetlands provide an additional – and natural – solution that can contribute to achieving this crucial goal. But wetlands are disappearing three times faster than forests.

The LIFE Wetlands4Climate project is working to validate a methodology for quantifying greenhouse gas (GHG) exchanges and establish guidelines for managing Mediterranean wetlands so that they can operate as carbon sinks while maintaining their ecological integrity and function and so continue to provide all the services of a healthy ecosystem.

The characteristics of each type of wetland studied – inland saline, inland freshwater and coastal – are decisive when planning management and conservation actions, since each type of wetland has different metabolic rates and carbon balances, and may respond to other types of management in different ways. That is why it is important to analyse the response of biogeochemical processes involving carbon to different actions in wetland vegetation, soil and water management.

Reducing carbon-based GHGs – CO₂ and methane – in wetlands is achieved by formulating protocols and guidelines with specific, replicable measures to conserve and restore wetlands with a high capacity to act as carbon pools, improving biodiversity, water security and human welfare indicators in the process. These measures will also help to reduce the vulnerability of wetlands, improving their resilience.

LIFE Wetlands4Climate has a total budget of €2,165,389 and will run from October 2020 to June 2024.