



## **LIFE ADAPTS**

(climate change Adaptations to Protect Turtles and monk Seals)

LIFE23-NAT-IT-LIFE ADAPTS GA n. 101148207

CUP: H33C25000140004

**Period of the project: 2025- 2030**

**Countries: Italy, Greece, Cyprus**

**Target species:** *Caretta caretta*, *Chelonia mydas*, *Monachus monachus*

### **PROJECT DESCRIPTION**

#### **BACKGROUND**

Climate change is inevitable and current conservation priorities - based on current or past contexts - might not be effective or efficient under future climate change scenarios.

Rising sea levels due to global warming could lead to the flooding of sea turtle nesting beaches and monk seal pupping caves, resulting in the loss of these critical habitats for a successful reproduction of these vulnerable animals.

The project directly contributes to the implementation of the EU Habitats Directive and the Biodiversity Strategy, as well as the EU strategy for tackling climate change, as described in the European Climate Law and the EU Strategy on Adaptation to Climate Change.

Marine species conservation is part of the EU environmental agenda, being also a key point in the EU Marine Strategy Framework Directive and the Common Fisheries Policy.

#### **OBJECTIVES**

The overall objective of the LIFE ADAPTS project is to identify the most likely future priorities for the EU populations of 3 priority species: the sea turtles *Caretta caretta* and *Chelonia mydas*, and the monk seal *Monachus monachus*, and to promote such an approach in conservation practices. The 3 main environmental problems and proposed solutions covered by the project are climate change (particularly sea-level rise and warming temperatures), by-catch and coastal development.

In the 3 EU countries most important for the 3 species (Italy, Greece and Cyprus), LIFE ADAPTS will identify the coastal and marine areas most likely to be resistant to the impacts of climate change and that therefore will represent very important areas for the future target populations, even if they are not considered as such at present time.

The project then aims to establish the long-term protection of these sites through the adoption of specific regulations, action plans and other measures, by the competent authorities in the 3 countries.

The specific objectives of LIFE ADAPTS are:

- mapping and analysing existing and potential sea turtle nesting sites and monk seal pupping/resting sites
- assessing the risks posed to these sites by sea-level rise
- assessing the risk posed by global warming to sea turtle nesting sites in terms of feminisation (sea turtles have temperature-dependent sex determination and high temperatures produce females)
- identifying key marine areas likely to have an important role for the species in future contexts
- developing a comprehensive conservation strategy based on these findings and on climate change adaptation approaches
- securing the implementation of this strategy by competent authorities
- implementing urgent conservation measures such as the protection of sea turtle clutches, improvement of the monk seal rescuing capacity, and restoration of monk seal resting and pupping caves
- promoting the implementation of project approaches in other Mediterranean countries important for these species
- promoting increased awareness of climate change topics among EU citizens through the example of this project on the 3 flagship species

## RESULTS

The project's expected results are:

- at least 60 sea turtle nesting sites and monk seal pupping sites identified and mapped
- dissemination of the output maps of breeding areas, as well as their status and characteristics, to several types of potential users, becoming the baseline of future conservation efforts in the Mediterranean
- identification of at least 36 sea turtle nesting sites and monk seal pupping sites resistant to climate change, through innovative assessment approaches (e.g., predictive models considering environmental factors and sea-level rise, live video surveillance to monitor sea caves reducing human intervention, complementary methods such as histology, incubation duration and temperature data loggers)
- dissemination of the above methodologies outside the project boundaries, increasing their coverage and effectiveness
- improvement of the current knowledge on the most frequented areas through the best available techniques (e.g., sea turtle satellite tracking, monk seal eDNA and faeces analysis, and climatic niche models developed by the project), providing:
- novel information about the occurrence of these taxa, including new areas and a more precise identification of hot-spot areas within the currently known wide marine areas
- identification of an estimated 20 priority marine areas under future climate change scenarios
- well defined and comprehensive conservation strategies and measures based on the high-priority turtle nesting sites, monk seal pupping sites and marine areas of both taxa, providing country-specific recommendations for their protection, promoted to competent authorities in all the involved countries
- adoption of new conservation strategies/measures by competent authorities, including legislative changes, integration in action plans and enhanced local engagement in conservation practices, in at least 83 priority marine areas and nesting/pupping sites
- enhancement, expansion or creation of 44 Natura 2000 sites, based also on the above identifications
- protection of at least 2 550 additional sea turtle clutches during the project and more than 5 000 after its end, as a result of the project's assessment of critical nesting sites and successful protection interventions in individual clutches
- upgrade of the existing monk seal rehabilitation programme in Greece, establishment of a monk seal rescue system in Cyprus, and improvement of the monk seal rescuing capacity in Italy through special

kits, with a total of 3 rescue networks with improved rescue capacity, thus significantly reducing mortality and increasing the number of individuals released at sea

- restoration of 7 monk seal pupping caves (currently used and therefore proven to be suitable and extremely valuable for the population)
- promotion of a robust collaborative network leading to synergic actions and interventions between countries, with successful replication of conservation strategies in areas of the eastern basin of the Mediterranean (Turkey, Israel, Tunisia, Libya, Egypt) for sea turtles, and Morocco, Mauritania and the Macaronesian archipelago for monk seals
- at least 5.6 million EU citizens informed about the target species' presence and risks, as well as climate change impacts and the need for climate change adaptation strategies to be incorporated into conservation practice