



LIFE17 NAT/IT/000565 CALLIOPE

COASTAL DUNE HABITATS, SUBLITTORAL SANDBANKS, MARINE REEFS AT CENTRAL ADRIATIC COAST:  
PROTECTION, CONSERVATION AND MITIGATION ACTIONS

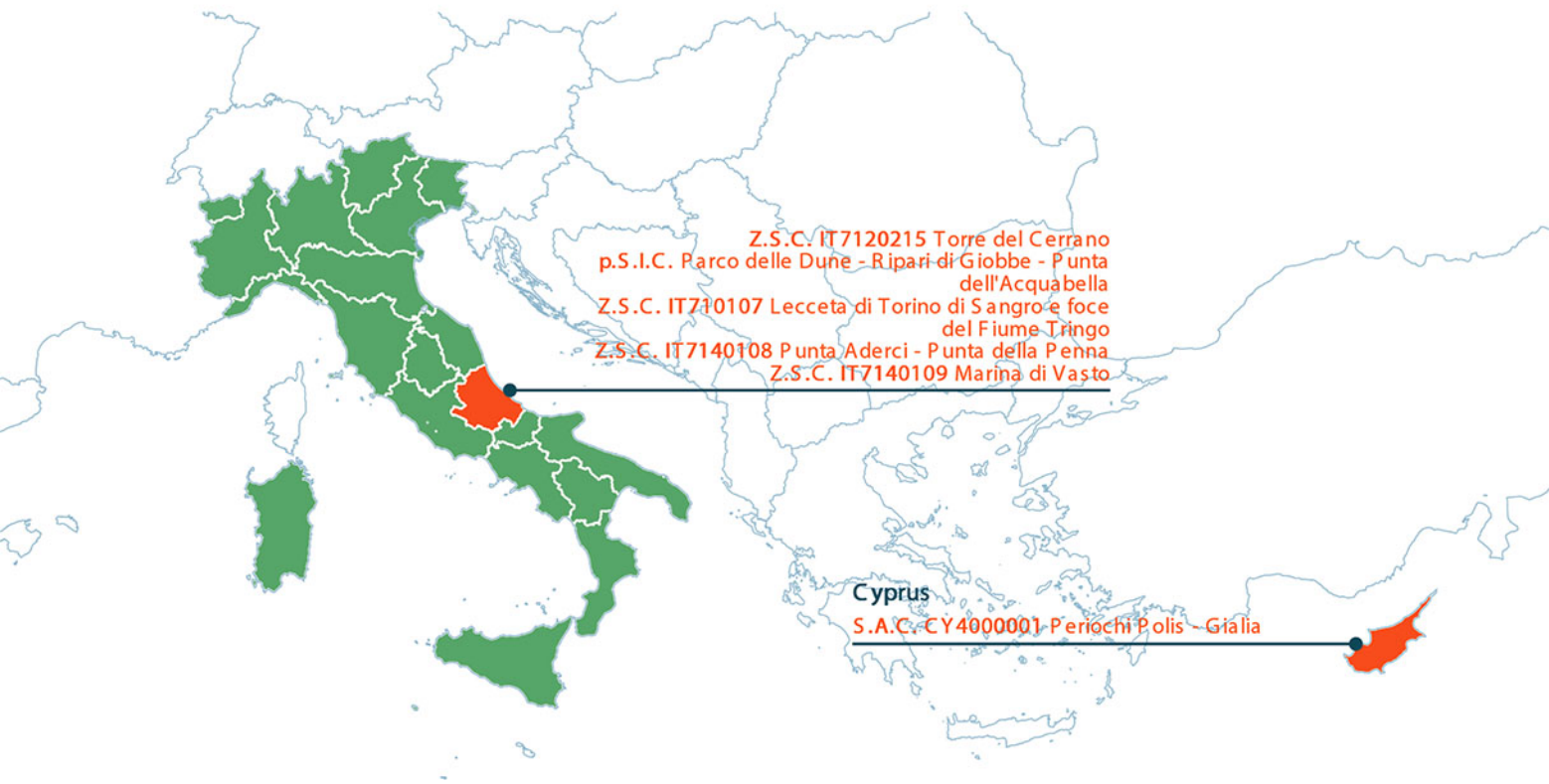
INFORMATION BOOKLET





The project's activities are located in the Natura 2000 network areas both in Italy and in Cyprus.

The project is implemented in two areas of intervention of a total range of 6000 hectares, along **Abruzzo coast in Italy** and at the **northwestern coast in Cyprus**.





The LIFE17 NAT/IT/000565 CALLIOPE project aims to conserve the fragile coastal dune and marine ecosystems and to mitigate the impacts produced by human activities that lead to alteration of coastal and marine habitats with a decrease in the survival of native species.

In particular, the project activities make it possible to improve:

- the local ecological network of coastal and marine habitats through the implementation of the Natura 2000 network both on land and at sea
- the protection of coastal and marine habitats through concrete conservation actions
- the involvement of citizens and stakeholders in environmental protection to increase awareness





## Special Area of Conservation CY4000001 Periochi Polis – Gialia, Cyprus

The area extends from Ayia Marina Chrysochous and Argaka community to the eucalyptus grove of Polis Chrysochous. The front part of the coast is bare sand and supports turtle nesting of *Caretta caretta*. Sand dunes form a more or less continuous ecosystem.

At the sand dunes occur important habitat types with psammophilous vegetation and rare, endemic and protected plant species, as the species of the Red Data Book of the Flora of Cyprus, *Ipomoea imperati* (Endangered), *Anthemis tomentosa* (Endangered), *Pancratium maritimum* (Near Threatened) and the endemic *Maresia nana* var. *glabra* (Critically Endangered).

The marine part of the site supports extensive meadows of the angiosperms *Posidonia oceanica* and *Cymodosa nodosa*, which support considerable numbers of young and adult turtles *Caretta caretta* and *Chelonia mydas*, which swim and feed on angiosperm sand invertebrates.

In Cyprus, the project LIFE CALLIOPE foresees to deal with human activities which alter the natural ecosystem, the eradication of alien plant species, the restoration of habitat types and the conservation of important psammophilous species, under the implementation of specific actions.





## Specific actions implemented in the target area

The project implemented specific actions at the target area.

The restoration and conservation actions are related to:

- The eradication of the invasive alien species *Acacia saligna*, from the shore.
- The establishment of wooden walkways for the minimization of trampling of natural vegetation.
- The installation of bollards with ropes on specific locations in order to limit the access to the beach to vehicles.
- The establishment of wooden sand fences for the stabilization of the dunes.
- The collection of seeds and their dispersal or production of plantlets and their planting at specific locations in order to enhance the continuity of target habitats along the beach and the future stabilization of the soil.





Other actions of the project about raising awareness and dissemination of the information are:

- The preparation of a documentary for the target area and the significance of its natural environment.
- The implementation of visits and events at the site promoting the participation of local and tourists.
- The dissemination of project's activities and news through social media.
- The publication of information material in order to raise awareness about environmental issues.



## The important plant *Maresia nana* var. *glabra*

The plant which was previously known as *Malcolmia nana* var. *glabra*, is an annual, endemic to Cyprus (it is found only in Cyprus and nowhere else in the world). It is critical to protect and conserve this taxon since it is found only in one location at the site Natura 2000 'Periochi Polis – Gialia' and based on the criteria of IUCN, its conservation status is evaluated as Critically Endangered. The plant is included in the Red Data Book of the Flora of Cyprus.

*Maresia nana*'s population is threatened by the invasive alien species *Acacia saligna*, thus there are actions about the eradication of acacias as well as its conservation. During the project, seeds of *Maresia nana* were collected for the implementation of germination experiments and preparation of a germination protocol. The seedlings resulted from the experiments were planted to the beach, close to the population of the plant.



Photo credits:

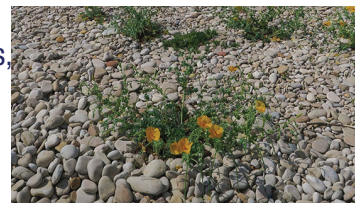
#1. @Charalambos S. Christodoulou, retrieved from <https://www.flora-of-cyprus.eu/>, #2-4. @Iro Kouzali, #5. @ Marios Andreou



## In Italy

### ZSC IT7140107 Lecceta di Torino di Sangro and Sangro river estuary

The site has pebbly beaches near the mouth of the Sangro River where, along the banks, there are long strips of reeds with an extensive wood of willows and white poplars. The LIFECALLIOPE project aims to redevelop the nature trail that starts at the pebbly beach and runs along the last stretch of the river.



### ZSC IT7140109 Marina di Vasto

It represents one of the best preserved dune environments on the coast and is also interesting for the significant development of wet meadows and the presence of the sea turtle *Emys orbicularis*.



### Ortona Dunes Park

The area has newly formed dune environments, but it represents a nesting site of *Charadrius alexandrinus*, very important in terms of extension and number of nests and thanks to LIFE CALLIOPE it has become a Natura 2000 network site.



### MPA Torre del Cerrano (ZSC IT7120215)

Torre Cerrano is one of the ancient coastal towers of the Kingdom of Naples and is located along the Adriatic coast, in a low and sandy coastal environment characterized by dunes vegetation.



For these three sites, the LIFE CALLIOPE project intends to improve the conservation status of dune areas along the coast, especially by replanting sand-loving dune species propagated with local seeds.



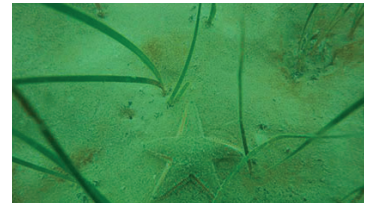


## In Italy

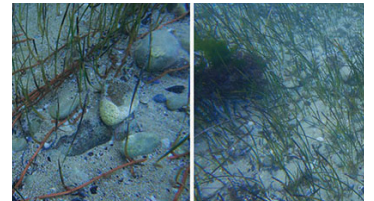
The LIFE CALLIOPE project has as a specific objective the implementation of the Natura 2000 network at sea by creating integrated land-sea sites of community interest, in accordance with the Integrated Coastal Zone Management (ICZM), introduced in the European context by the “Recommendation on the implementation of the integrated management of coastal zones in Europe (2002/413/EC)” of 30.05.2002.

The sites ZSC IT7140108 Punta Aderci-Punta della Penna and pSCI Punta dell’Acquabella - Moro Mouth river and Ripari di Giobbe - Foro Mouth river have been proposed as a Natura 2000 marine network where the following EU habitats are present:

**Habitat 1110:** Sandbanks permanently submerged by water whose level rarely exceeds a depth of 11 m and which include unvegetated or sparsely vegetated sandbars. The main phanerogam is *Cymodocea nodosa*.



**Habitat 1160:** Medium-sized coves, located on the coast protected from the waves. The environment is characterized by a complex mosaic of benthic communities with high marine biodiversity. The reference species, present only at the Punta Aderci site, is the seagrass *Zostera noltii*.



**Habitat 1170.** Reefs may be bare or contain organogenic accumulations and coral formations in which hard substrate communities are distributed, including the bivalve species *Lithophaga lithophaga* and the white date *Pholas dactylus*.

