



REST-COAST

Sicily Med Island Pilot Fact Sheet



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Country: Italy

Area (ha/km²): 3559 ha/35.6 km²

Geographic coordinates of the site centroid point:
15.05326,36.75450

Ecosystem type

Marine habitat

Key habitats

Saline lagoons, sand beach driftlines, shifting coastal dunes, Coastal salt-marshes and saline reedbeds, perennial calcareous grassland and basic steppes

Key species

Ruppia maritima, *Juncetalia maritimi*, *Lythrum tribracteatum*, *Limonium pachynensis*, *Sarcocornitea fruticosa*, *Phragmites australis*, *Salicornia perennans*, *Nerio-Tamaricetea*, *Althenia filiformis*, *Aeluropus lagopoides*, *Triglochin bulbosum*, *Cressa cretica*, *Marmaronetta angustirostris*,

Athyca nyroca, *Porphyrio porphyrio*, *Phoenicotterus roseus*, *Botaurus stellaris*, plus different species of waders (5 species in Annex 1 of Birds Directive), herons (7 species in Annex 1 of Birds Directive), sternidae and Laridae (6 species in Annex 1 of Birds Directive)

Organisation responsible for the pilot

University of Catania



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Pressures, threats and issues

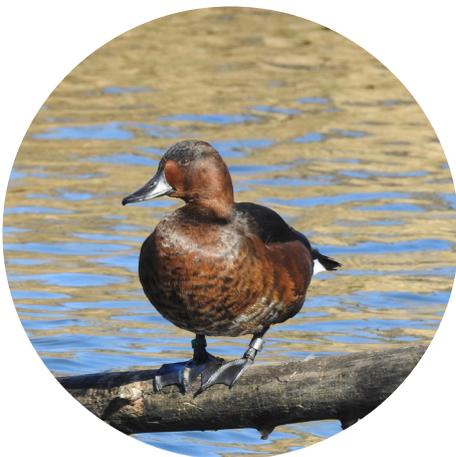
- In the last decades, the area suffered a growing anthropic pressure due to the increase of intensive agriculture and touristic activities. Excessive water withdrawal for irrigation exerts pressure on the lagoons and touristic facilities impacted the existing dune strip.
- The reduction of hydraulic connectivity between lagoons and the sea induced the fragmentation of habitats, while pollution determined the establishment of invasive species. Moreover, illegal hunting threatens migratory bird species that nest in the wetlands close to the lagoons.
- Absence of continuous and effective monitoring and historical data on wetland ecological status and consequent lack of knowledge on relationships between water/sediment/ecological fluxes.
- Scarce data-driven knowledge of the stakeholders on the value of coastal restoration and limited expertise on NBS measures.



Marmaronetta angustirostris



Botaurus stellaris



Athyca nyroca



Plegadis falcinellus



Phoenicopterus roseus



Porphyrio porphyrio (Courtesy of Stiftung Pro Artenvielfalt – Life Marbled Duck PSSO)

Expected impact of the project

- Extension of wetland surface area to improve water storage and water quality, accommodate nesting, breeding and feeding for migratory bird species.
- Use of autoctone species to fight invasive species, obtain wave dissipation, reduce coastal erosion.
- Dune stabilization to reduce coastal erosion risk.
- Habitat monitoring, including water, sediments and biota .
- Hydraulics solutions to ensure regulation of water levels and improve hydraulic connectivity between sea and lagoons.

Stakeholders

- Public bodies:** Water District Authority, Regional Dept of Water, Energy, Waste, Agriculture, Rural Development and Fishing Department, Civil Protection, Local Municipalities.

- Site managers:** Stiftung Pro Artenvielfalt, Nature Reserve "Oasi Faunistica di Vendicari".
- Local organizations:** Environmental and nature conservation grass-root associations, farmers, tourist operators.

Key variables of relevance to REST-COAST

- Met-ocean forcings (precipitation, wind, wave climate, mean sea level) and lagoon and beach parameters (lagoon water levels, temperature, sediments, etc) to model scenarios of coastal flooding and erosion under climate change conditions and different combinations of NBS building blocks.
- Chemical and biochemical characteristics of the lagoon water (pH, conductivity, temperature, nitrites, nitrates, dissolved oxygen).
- Habitat mapping (e.g. Shannon index, Simpson index, floristic richness, number of individuals of target species, etc.) to measure biodiversity and to assess ESS loss/gain.



Cuba-Longarini lagoons



Baronello lagoon



Vendicari lagoon



Ponterio lagoon



Banquettes of *Posidonia Oceanica* on the beach



Prairies of *Salicornia perennans* at Morghella Lagoon



Maritime rupia at Morghella Lagoon