

Vermeto
Photo: John E. Randall



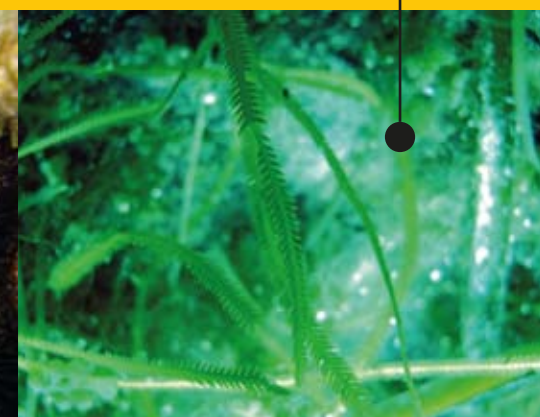
Maërl
Photo: Simone Pietrangeli Canese



Posidonia oceanica
Photo: Simone Pietrangeli Canese



Pterois miles
Photo: John E. Randall



Caulerpa taxifolia
Photo: Alan Deidun



Aplysia dactyloides
Photo: Alan Deidun



Local Ecological Knowledge for alien species and seabed integrity in Italian-Maltese waters

Harmony project realized by:

Università degli Studi di Palermo,
Istituto Superiore per la Protezione e la Ricerca Ambientale,
Consiglio Nazionale delle Ricerche,
Regione Siciliana - Dipartimento Pesca Mediterranea,
L-Università Tà Malta,
Parliamentary Secretariat For Agriculture, Fisheries and Animal Rights,
ERA Environment & Resources Authority



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Graphic project: Sonia Poponessi - Communication Area ISPRA

Safeguarding biodiversity and protecting seabeds: a challenge that involves everyone

Man uses the sea and its resources through activities that interfere in a more or less tangible way on the state of the marine environment. Some fishing activities that use gear which comes in contact with the seabed, as well as tourism activities and underwater activities conducted by inexperienced or irresponsible operators, *alter the structure and functioning of the seabed, compromising its integrity and, in some cases, favouring the success of highly competitive and invasive alien species at the expense of native ones.*

These changes often not only *alter local biodiversity, but also affect the human activities themselves and, in general, the ability to of affected ecosystems to deliver eco-systemic services:* for example, by reducing fishery resources or their commercial value, by reducing the attractiveness or tourist amenity value of marine environments, or by denting their cultural and social value.

Public decision-makers, environmental authorities and the scientific community at large are called to address this threat, through initiatives aimed at limiting the loss of biodiversity and at preserving the integrity of the sea floor. The conservation of the marine environment is an ambitious target that can only be overcome if citizens and local communities are also called upon to contribute, by adopting *appropriate behavior to safeguard the marine environment and by actively participating in the development of environmental knowledge and scientific research.*

The HARMONY Project: protecting marine biodiversity in the Italian-Maltese area, with common intervention strategies and the involvement of local communities

The **HARMONY Project**, funded under the Italy-Malta Program, aims to **protect marine biodiversity through the assessment of the integrity of the seabed and the presence of non-indigenous species (NIS)** in the Italian-Maltese cross-border area, promoting development of shared tools and strategies of interventions.

For this purpose, the **HARMONY project** plans to carry out study and monitoring activities on marine habitats and species, which involve the use of participatory survey tools, actively **involving citizens in the collection of environmental data and information.**



Topics to be studied and monitored by the HARMONY Project

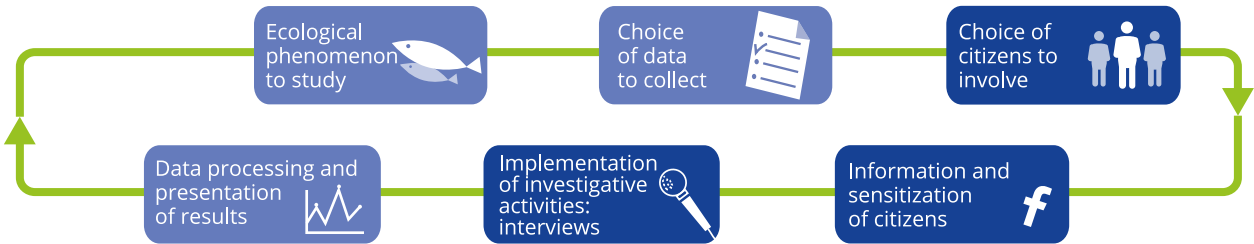
Alien or non-indigenous species: organisms that are accidentally or intentionally transported by humans outside their area of origin, sometimes causing serious threats to the environment, local biodiversity and even human health.

The integrity of the sea floor: the seabed and the associated habitats harbour a large part of the marine biodiversity. Human activities can negatively impact them, with alteration in their structure and functioning and, in some cases, favouring the success of alien species to the detriment of local species.

Study the marine environment through the direct experience of those directly in contact with it: Local Ecological Knowledge (LEK)

Recently, the scientific community has recognized **the importance of actively consulting citizens in the observation of visible natural phenomena** in order to broaden their knowledge after being involved in awareness raising activities. This scientific research approach, i.e. **Citizen Science**, is based on the voluntary collection of observations by citizens, according to guidelines provided by researchers. Within the HARMONY project the **Local Ecological Knowledge (LEK) will be applied as a specific research methodology based on the collection of evidences and observations on ecological phenomena, thus enhancing the knowledge of those who live in close contact with the environment.**

The members of the local communities will therefore be the **real experts** of the research activity, who will be called upon to collaborate with the Project staff, after having received adequate information on the topics under study and on the contribution they can provide. In this way they will contribute to producing an **original scientific output that is officially recognized** and that can be used in the future definition of tools and strategies for the mitigation of alien species and the protection of the seabed.



The LEK in the HARMONY Project



WHY?

To collect useful data for the evaluation of alien species and the integrity of the seabed; this data will integrate and complete the information obtained from traditional monitoring.

WITH WHOM?

With all citizens directly or indirectly involved in the use and/or management of marine resources, such as professional or sport fishing associations, diving centers, local tourism, Marine Protected Areas (MPA's), Maritime Authorities.

HOW?

The researchers will interview the sea operators on the integrity of the sea floor and on the presence of alien species in their area of interest. Some informative tools, such as posters and brochures will facilitate interviews or the exchange of information between researchers and citizens involved.

WHERE?

The survey activities will be carried out within at the Natura 2000 sites participating in the HARMONY project.

