Life BaHAR for Natura 2000

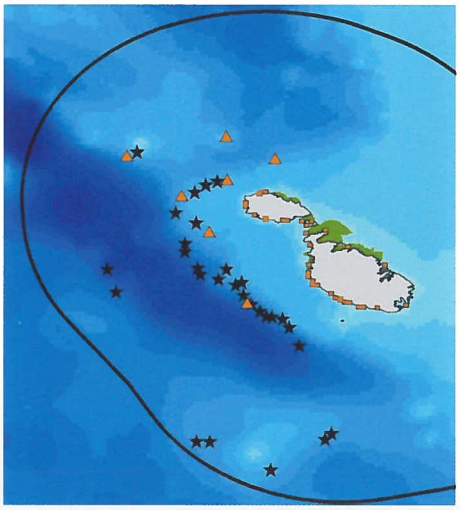
LIFE 12 NAT/MT/000845

Diversity of Our Seas

Marine Habitats

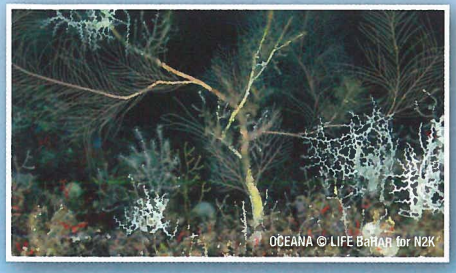
The sea surrounding the Maltese Islands provides a home for a rich diversity of marine life, from plankton and sea urchins, to cold water corals, rays and shoals of fish. The sea hosts different habitats which provide shelter, food and breeding grounds for a variety of marine species. Sea caves, reefs, sandbanks and seagrass meadows are all examples of marine habitats that are important because of the roles they play in the functioning of marine ecosystems and in the maintenance of biodiversity.

Protecting this rich biodiversity is at the core of the LIFE BaHAR for N2K project, which is generating new data through marine surveys. These data will serve to establish where such habitats occur, their condition, which species depend on them, and whether they are being impacted by human activities. Understanding our sea helps us protect the natural environment, including its habitats and species.



Reefs

There are two types of reefs - geogenic and biogenic. Geogenic reefs are natural rocky marine habitats where animal and plant communities grow on rocks protruding from the bottom, on rocky escarpments, or on collections of boulders. Biogenic reefs are structures created by the biota themselves and which provide a habitat for other species. Reefs can be found at varying depths and in a variety of seabed formations.



Reefs are also very diverse in terms of the communities they support and are considered to be biodiversity hotspots; algae and marine fauna, such as invertebrates and fish, are usually associated with reefs. The environmental conditions of the reef will determine the groups of species that are associated with this habitat.

Framework-forming deep-water corals occur in cold deep water since they cannot live in warm surface waters. Such deep-water reefs are considered to be a rare habitat in the Mediterranean Sea. Since many of the habitat-forming species are slow-growing, large coral frameworks may have taken hundreds of years to reach their present size.

Through the project, new areas with extensive and diverse cold water corals have been discovered at depths of 300–1000m, including black coral forests, as well as white, red and gold corals. A fossilised sponge reef was discovered at a depth of ca. 300m, and extending over a 7km wide area, which serves as a habitat for several species.

Caves

Marine caves may be formed through direct action of waves on rock at sea-level, which may turn rock fissures into clefts and eventually caves. They may also be formed on land through the action of ground water and later become submerged due to subsidence of the land, a rise in sea-level, or both together.

The environmental conditions within the caves vary depending on the size and structure of the caves, the extent to which they are submerged, the exposure to waves and currents, as well as changes in temperature, salinity and light. These varying conditions will in turn affect which communities of living organisms are found within.

Sea caves harbour communities of marine invertebrates and algae near the mouth of the cave. These communities change along the gradients of light intensity and turbulence occurring from the entrance to the inner parts of the cave. The conditions of low light and temperature found in caves can be similar to deep water habitats, so that organisms usually found in deeper waters often inhabit caves, even in relatively shallow water.

Through surveys, the project has localised new caves in inshore areas, varying from small caves measuring only a few metres, to large fissures and tunnel systems penetrating deeply into the rock. There are also new records of deep-water caves at depths of 205–450m, as well as a cave recorded at 795m.