Life BaHAR for Natura 2000

LIFE 12 NAT/MT/000845

Exploring Malta's Seas – Project Findings

Information Collected

During the summer of 2015 and 2016, the LIFE BaHAR survey teams spent more than 100 days at sea and explored thousands of hectares of marine area within the Maltese Fisheries Management Zone. Two approaches were followed: surveys by SCUBA diving and deep-sea surveys using an ROV – a remotely operated underwater vehicle. During these surveys, an immense amount of data was collected, including thousands of pictures, hundreds of hours of video footage and around 200 biological samples. The LIFE BaHAR team also took note of relevant threats and pressures, which might affect the habitats of interest.

Additionally, a third survey was commissioned to investigate the depth profile of 130,000 hectares of selected marine areas using a multibeam echosounder, which utilises sound waves to map the shape and features of the seabed. Fifty sediment samples were also collected to help determine the seafloor composition.

New Discoveries

Did you know that Malta's deep sea is a 'biodiversity hotspot' hosting several hundred species? – During the project some 75 different species of fishes, 55 of cnidarians (e.g. corals, sea pens, anemones), 35 of crustaceans, 32 of molluscs, 21 of echinoderms (starfish, brittle stars, sea cucumbers, sea urchins, crinoids) and 15 of sponges were identified, as well as various tunicates, bryozoans, brachiopods and annelids.

Record Depth

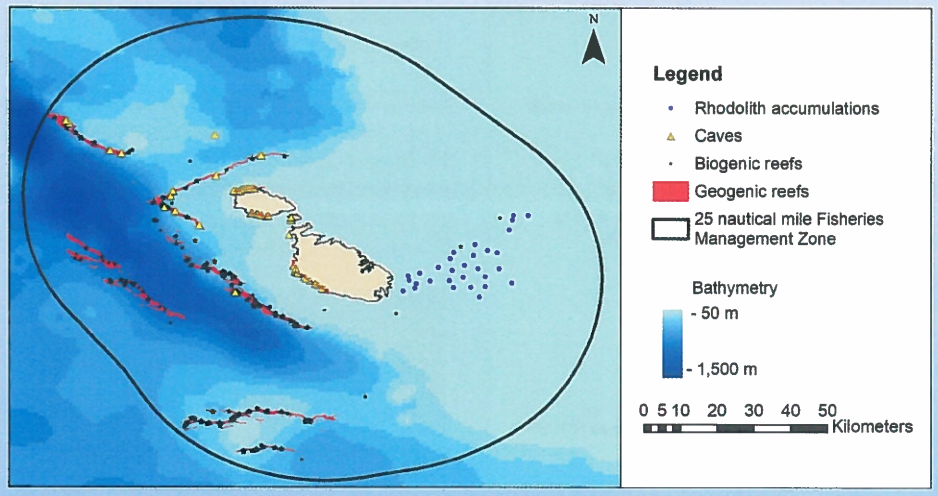
Never observed in depths below 800 m, the LIFE BaHAR project team found the precious red coral, *Corallium rubrum*, at depths down to 1016 m and therefore reported a new depth record for this protected species.

Deep-Water Caves

New records were made of 17 deep-water caves, mostly located west and north of Gozo at depths between 205 m and 795 m. Deep-water caves are thought to have formed a very long time ago, some possibly dating back to the Messinian age some 5-7 million years ago, when the Mediterranean Sea was dry in many places.

New Species Record

Never seen before in the Mediterranean – a 10 to 11 armed starfish called *Coronaster briareus* was discovered through the marine surveys of the LIFE BaHAR project in 2015 and was observed again in 2016. This is the first time this species has been recorded in the Mediterranean Sea.



Project Results

The analysis of all information collected filled various knowledge gaps and identified marine areas of high conservation interest. Beside the new discoveries and records, the project has led to the following findings:

Coastal Caves

A total of 37 emergent and 52 fully submerged caves were recorded in inshore areas during the LIFE BaHAR surveys. These varied in both size and structure, ranging from small caves measuring only a few metres in extent, to large fissures and extensive tunnel systems penetrating deeply into the rock.

The main threats and pressures on typical species found in the cave habitats surveyed were due to marine litter, in particular plastics accumulating inside caves. The overall conservation status of cave habitats is nonetheless considered to be favourable.

Reefs

The project found new deep-water reef areas with extensive and diverse cold water coral assemblages at depths of 300 m to 1000 m extending some 70 km along the Malta Graben. These coral frameworks support a range of seabed-associated animals, including sponges, cnidarians, echinoderms, molluscs and crustaceans. Furthermore, a fossilised stony sponge reef, which appears to be some 7-8 km long, was discovered north of Gozo, located at depths of ca. 300 m. A diverse biota lives in the nooks and crannies created by the sponge when it was alive.

The main threats and pressures on typical species found in the reef habitats surveyed were due to marine litter, in particular lost/discarded fishing gear. However, the overall conservation status of reef habitats is considered to be favourable.

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Nesploraw l-Ibħra Maltin – Is-Sejbiet tal-Proġett

L-Informazzjoni li Nġabret

Matul is-sjuf tal-2015 u tal-2016, it-tims ta' stħarriġ ta' LIFE BaħAR qattgħu iktar minn 100 ġurnata fuq il-baħar u esploraw eluf ta' ettari fiż-Żona ta' Ġestjoni tas-Sajd madwar il-gżejjer Maltin. L-istudju sar b'żewġ modi – stħarriġ permezz ta' għaddasa u stħarriġ dwar qiegħ il-baħar permezz ta' ROV – vettura ta' taħt l-ilma li tkun ikkontrollata mill-wiċċ. Matul dan l-istudju, inġabar ammont kbir ħafna ta' dejta, li jinkludi eluf ta' ritratti, mijiet ta' siegħat ta' filmat, u madwar 200 kampjun bijoloġiku. It-tim ta' LIFE BaħAR ħa wkoll nota tat-theddid u l-pressjonijiet relevanti li jistgħu jaffettwaw l-ambjenti naturali ta' interess.

Barra minn hekk, ġie kkummissjonat it-tielet stħarriġ dwar il-profil tal-qiegħ ta' 130,000 ettaru f'żoni speċifiċi fil-baħar permezz ta' *multibeam echosounder*. Dan l-apparat juża *sound waves* sabiex joħloq mappa li turi l-forma u t-topografija ta' qiegħ il-baħar. Inġabru wkoll ħamsin kampjun tas-sediment sabiex jgħinu tiġi determinata l-kompożizzjoni ta' qiegħ il-baħar.

Skoperti Ġodda

Kont taf li l-baħar fond madwar Malta hu '*hotspot* ta' bijodiversità' li jospita mijiet ta' speċi? Matul il-proġett ġew identifikati madwar 75 speċi differenti ta' ħut, 55 ta' knidarji (eż. qroll, *sea pens*, artikli), 35 ta' krustaċji, 32 ta' molluski, 21 ta' ekinodermi (stilel tal-baħar, bużżi, rizzi, krinojdi) u 15-il speċi ta' sponoż, kif ukoll diversi tunikati, *bryozoans*, brakjopodi u ħniex.

Fond Rekord

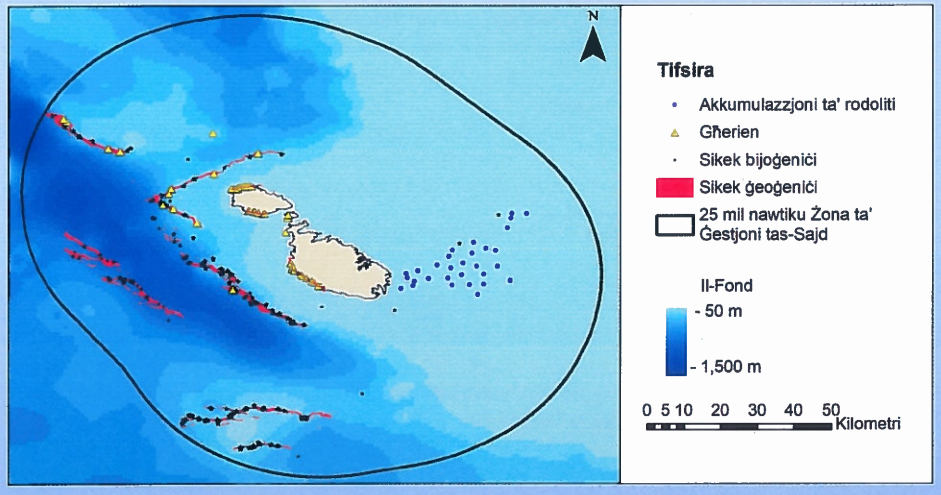
Fejn qabel qatt ma nstab f'fond ta' iktar minn 800 metru, it-tim tal-proġett LIFE BaħAR sab il-qroll aħmar, *Corallium rubrum*, f'fond ta' 1016-il metru u b'hekk irrapporta fond ġdid fejn tinstab din l-ispeċi protetta.

Għerien tal-Baħar Fond

Saru rekords ġodda ta' 17-il għar tal-baħar fond, li jinsabu l-aktar fil-punent u fit-tramuntana t'Għawdex f'fond ta' bejn 205 u 795 metru. Huwa maħsub li għerien tal-baħar fond iffurmaw ħafna żmien ilu, uħud possibilment datati saż-żmien Messinjan bejn wieħed u ieħor 5-7 miljun sena ilu, meta l-Baħar Mediterran kien niexef f'ħafna postijiet.

Rekord ta' Speċi Ġdida

Qatt ma nstabet qabel fil-Mediterran – matul l-istħarriġ tal-proġett LIFE BaħAR fl-2015 ġiet skoperta stilla tal-baħar b'10 jew 11-il sebgħa li tissejjaħ *Coronaster briareus* u li ġiet osservata mill-ġdid fl-2016. Din hija l-ewwel darba li din l-ispeċi kienet irrekordjata fil-Baħar Mediterran.



Riżultati tal-Proġett

L-analiżi tal-informazzjoni kollha li nġabret ipprovdiet għarfien ġdid u ġew identifikati żoni fil-baħar ta' interess kbir għall-konservazzjoni. Minbarra l-iskoperti u r-rekords il-ġodda, dan il-proġett wassal ukoll għal dawn is-sejbiet:

Għerien mal-Kosta

Matul l-istħarriġ tal-LIFE BaħAR f'żoni qrib il-kosta, instabu total ta' 37 għar li huma parzjalment taħt wiċċ il-baħar u 52 għar kompletament taħt wiċċ il-baħar. Dawn varjaw kemm fid-daqs kif ukoll fl-istruttura, minn għerien żgħar ta' ftit metri biss sa xquq kbar u sistemi estensivi ta' mini li jidħlu fil-fond ġol-blat.

Skart fil-baħar, partikolarment plastik li jakkumula ġewwa l-għerien, kien it-theddida u l-pressjoni prinċipali osservati fuq l-ispeċi tipiċi li jinsabu fl-għerien. Madanakollu, l-istat ġenerali ta' konservazzjoni tal-ambjenti naturali tal-għerien huwa kkunsidrat bħala favorevoli.

Sikek

Il-proġett sab żoni ġodda ta' sikek f'baħar fond, b'meded estensivi ta' diversi tipi ta' qroll tal-ilma kiesaħ, f'fond ta' bejn 300 u 1000 metru u li jestendu bejn wieħed u ieħor 70 kilometru ma' tul il-Graben ta' Malta. Dawn is-sikek jospitaw numru ta' annimali li jgħixu f'qiegħ il-baħar bħal sponoż, knidarji, ekinodermi, molluski u krustaċji. Barra minn hekk, fit-tramuntana t'Għawdex instabet sikka ffurmata minn sponża fossilizzata, f'fond ta' madwar 300 metru u li tidher li hi twila madwar 7-8 kilometri. Diversi annimali u pjanti jgħixu fl-irkejjen maħluqa mill-isponża meta kienet ħajja.

Skart fil-baħar, speċjalment rkaptu tas-sajd mormi jew mitluf, kien it-theddida u l-pressjoni prinċipali osservati fuq l-ispeċi tipiċi ta' dawn is-sikek. Madanakollu, l-istat ġenerali ta' konservazzjoni tal-ambjenti naturali tas-sikek huwa kkunsidrat bħala favorevoli.