UN environment
United Nations Environment Programme

Mediterranean Action Plan
Barcelona Convention

The Mediterranean Biodiversity Centre
SPA / RAC

Call for tender

Mapping of marine key habitats and assessing their vulnerability to fishing activities in Malta

Call for tender/SPA-RAC/ MedKeyHabitats II Project n°6/2019_SPA RAC

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TECHNICAL SPECIFICATIONS

1. Background / Introduction

The SPA/RAC

The Specially Protected Areas Regional Activity Centre (SPA/RAC) was established by the Contracting Parties to the Barcelona Convention in order to assist the Mediterranean countries in implementing the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol). Tunisia has been hosting the Centre since its establishment in 1985. The Centre works under the auspices of the UN Environment/ Mediterranean Action Plan (UNEP/MAP) - Barcelona Convention Secretariat, based in Athens, Greece.

SPA/RAC's main objective is to contribute to the protection, preservation and sustainable management of marine and coastal areas of particular natural and cultural value and threatened and endangered species of flora and fauna in the Mediterranean.

For more information, please consult: www.spa-rac.org.

Background

Within the framework of its assistance activities to Contracting Parties to the Barcelona Convention and through the "Mapping of marine Key habitats and assessing their vulnerability to fishing activities in the Mediterranean" project (Medkeyhabitats II project), SPA/RAC is collaborating with the Environment and Resources Authority (ERA) in the implementation of the activities identified in common agreement with the Maltese SPA/RAC National Focal Point and planned to be implemented in Malta during the period of the project.

The MedKeyHabitats II project is funded by MAVA foundation within its strategy for the Mediterranean for the period 2017-2022 with a total duration of 30 months, from July 2017 to December 2019. It aims to establish a mapping inventory of marine key habitats on six pilot sites in Mediterranean countries and to assess their sensitivity to fishing activities.

The project will assist the countries to implement the appropriate measures in relation to the priorities of the SAP-BIO and the recommendations of the Action Plans for the conservation of marine vegetation, the conservation of the coralligenous and others calcareous bio-concretions and the conservation of dark habitats (marine caves, canyons, etc.). It will also support the implementation of the IMAP at national level and its Ecological objective 1 and the common indicator 1 and 2 (Habitat distributional range and the conditions of the habitat's typical species and communities).

These activities intend also to help the development of Marine and Coastal Protected Areas (MPAs) in Malta, through the support of the MedKeyHabitats II project actions to address adequate technical support and capacity building for the planning and proper management of protected areas in the country.

2. Objectives

It is agreed with the Environment and Resources Authority (ERA) that the present action will consist in:

- Conduct cartographic inventories of marine key habitats in the selected area studies included within the 50m bathymetry using side scan sonar and Multibeam for the islet of Filfla;
- Set up monitoring systems for marine key habitats (one monitoring system for Posidonia meadows and one monitoring system for coralligenous assemblage).
- Conduct a fisheries study on the importance, frequency and extent of professional fishing practices and illegal fishing practices in and around the study areas and their impacts on marine habitats;
- Assess the sensitivity of marine habitats in the study areas to regulated and/or unregulated fishing activities identified in the study area;
- Develop management recommendations for the study areas;
- Provide on-the-job training of representatives of ERA, University of Malta (UM) and NGOs on the techniques used and the methodology of the work adopted.

3. Study Area

The Maltese Islands provide a number of diverse habitats to various terrestrial, aquatic and marine species. The marine environment surrounding the Islands hosts different habitats for different marine species. *Posidonia oceanica* is a seagrass that forms meadows, which can extend up to a depth of 50m and is a species, which is endemic to the Mediterranean Sea. This seagrass, which is a plant, also forms a habitat for other species, and is referred to as a habitat-forming species.

Natura 2000 is a network of protected areas throughout the EU and is considered as the largest coherent group of protected areas in the world. The Natura 2000 network was established in 1992 under the Habitats Directive, with the long-term aim of protecting Europe's most vulnerable and threatened species and habitats.

Five sites were selected by mutual agreement with ERA:

MT101 - Żona fil-Baħar bejn Rdum Majjiesa u Għar Lapsi

A rich and diverse biota can be found in the Rdum Majjiesa to Għar Lapsi marine area (Fig. 1), complementing its geomorphological characteristics. The site hosts representatives of the main marine habitat types occurring in the Maltese Islands, with the associated biotic assemblages including species and ecosystems of conservation importance. Meadows of the seagrass *Posidonia oceanica* dominate large areas of the seabed within the 50m bathymetric region. Reefs are present along the coasts where sponges, cnidarians, polychaetes, molluscs, crustaceans and echinoderms are known to occur.

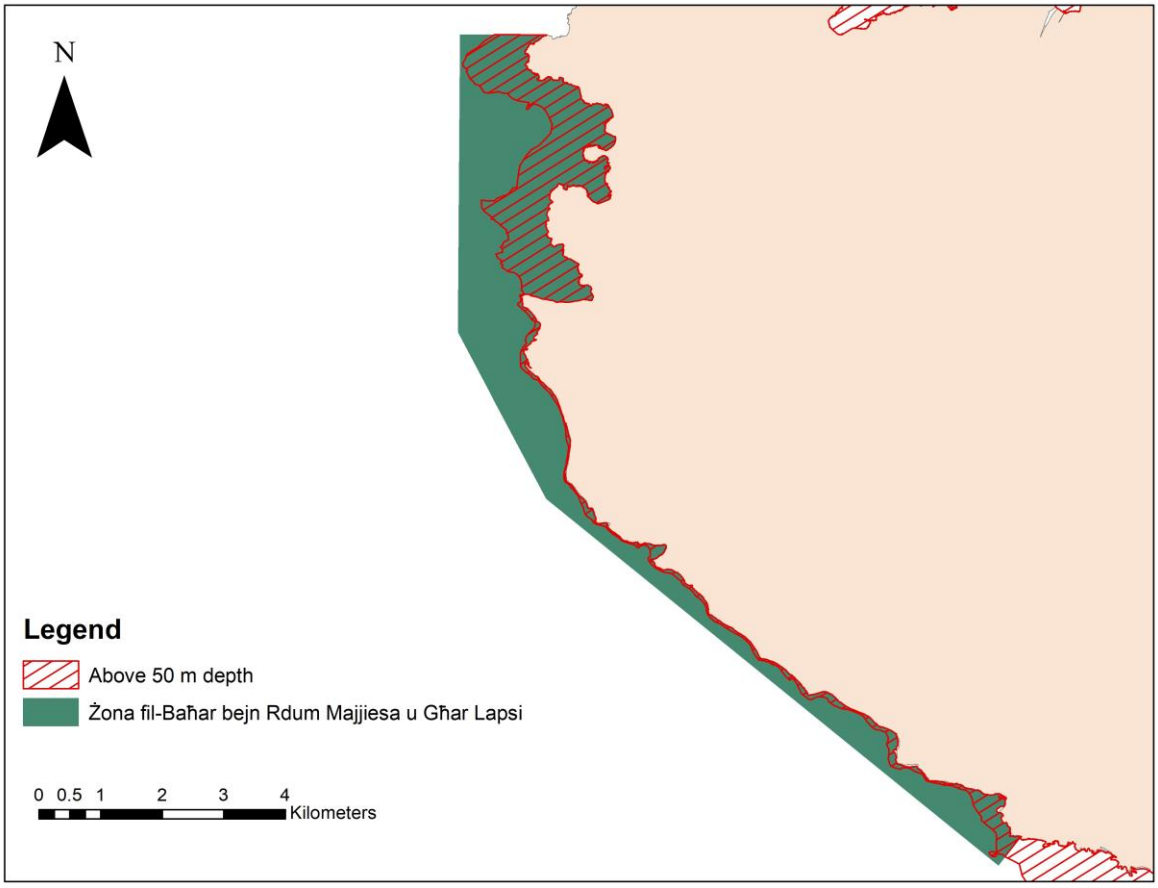


Figure 1: Żona fil-Baħar bejn Rdum Majjiesa u Għar Lapsi (in green) and the area to be mapped (hatched in red).

MT102 - Żona fil-Baħar fl-inħawi ta' Għar Lapsi u ta' Filfla

The islet of Filfla itself is a strict nature reserve and a Natura 2000 site (MT0000016, Fig. 2), whereas both the islet and its surrounding marine area are considered as an Important Bird Area (IBA) of EU Importance by BirdLife Malta. The islet of Filfla is also considered a Global Important Bird Area by BirdLife International.

Even though most of the marine species recorded on site are common around the rest of the Maltese Islands, the site's location, the relatively high species richness and the relatively unpolluted waters of the site justify its protection. Indeed, this site hosts a rich and diverse biota, reflecting a heterogenous bottom. Considering the Posidonia beds, from a survey carried out in 2002, it was discovered that in the Għar Lapsi area, the Posidonia meadow's rhizome primary production values are amongst the higher values for the Mediterranean Sea.

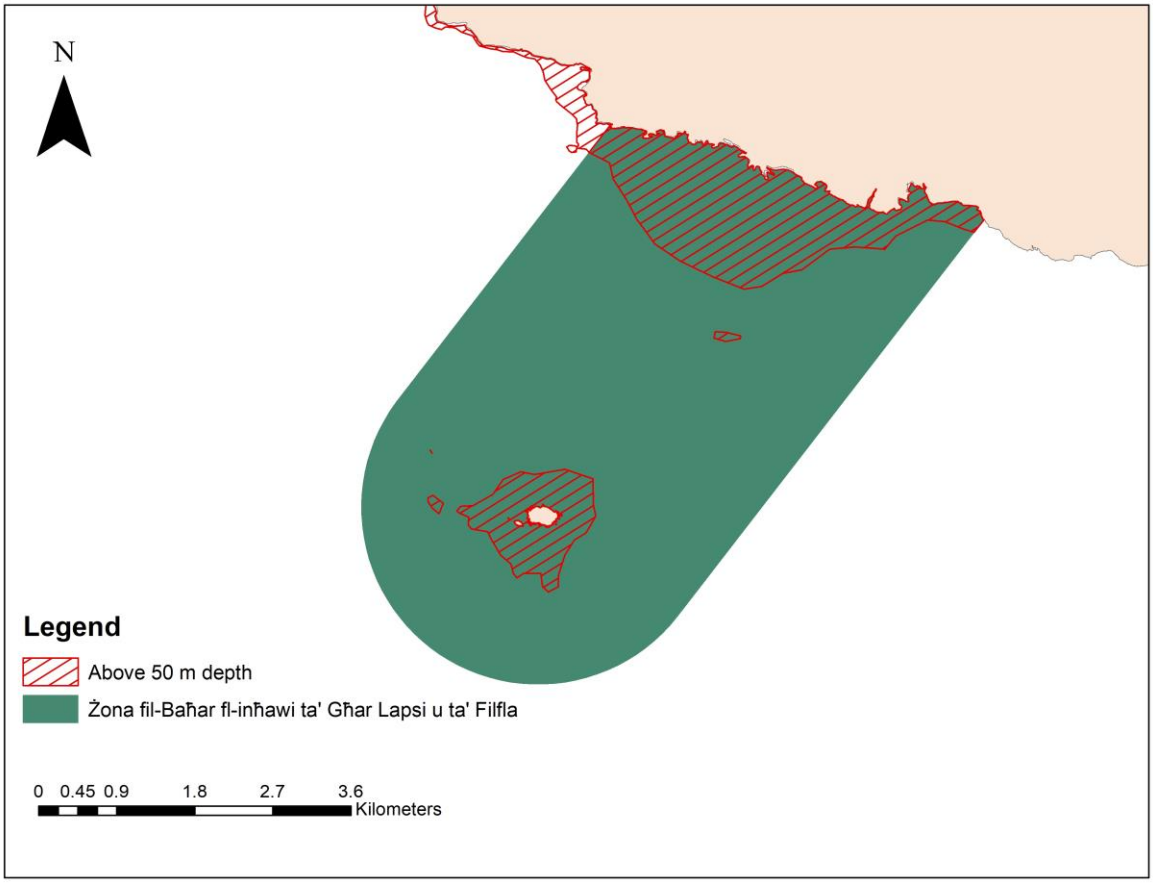


Figure 2: Żona fil-Baħar fl-inħawi ta' Għar Lapsi u ta' Filfla (in green) and the area to be mapped (hatched in red).

MT103 - Żona fil-Baħar fl-inħawi tad-Dwejra (Għawdex)

The site hosts the highest population density of *Caretta caretta*. A small number of *Tursiops truncatus* is present in waters around this area, but clearly identifiable areas representing the physical and biological factors essential for their life and reproduction have not yet been found. The information on *T. trunctus* and *C. caretta* was gathered through the EU LIFE+ MIGRATE project (LIFE11 NAT/MT/1070). Reef assemblages present along escarpments in this area are characterised by a variety of sessile cnidarians and sponges. The most abundant habitat-forming species included the scleractinian (stony coral) *Madrepora oculata*, the antipatharian (black coral) *Leiopathes glaberrima* and the alcyonacean *Callogorgia verticillata*. The information on caves and reefs was gathered through the LIFEBaĦAR for N2K project (LIFE12NAT/MT/000845).

An extensive area of this site was initially proposed as an SCI in 2016 and confirmed as an SCI in 2017; the site was extended in 2018.

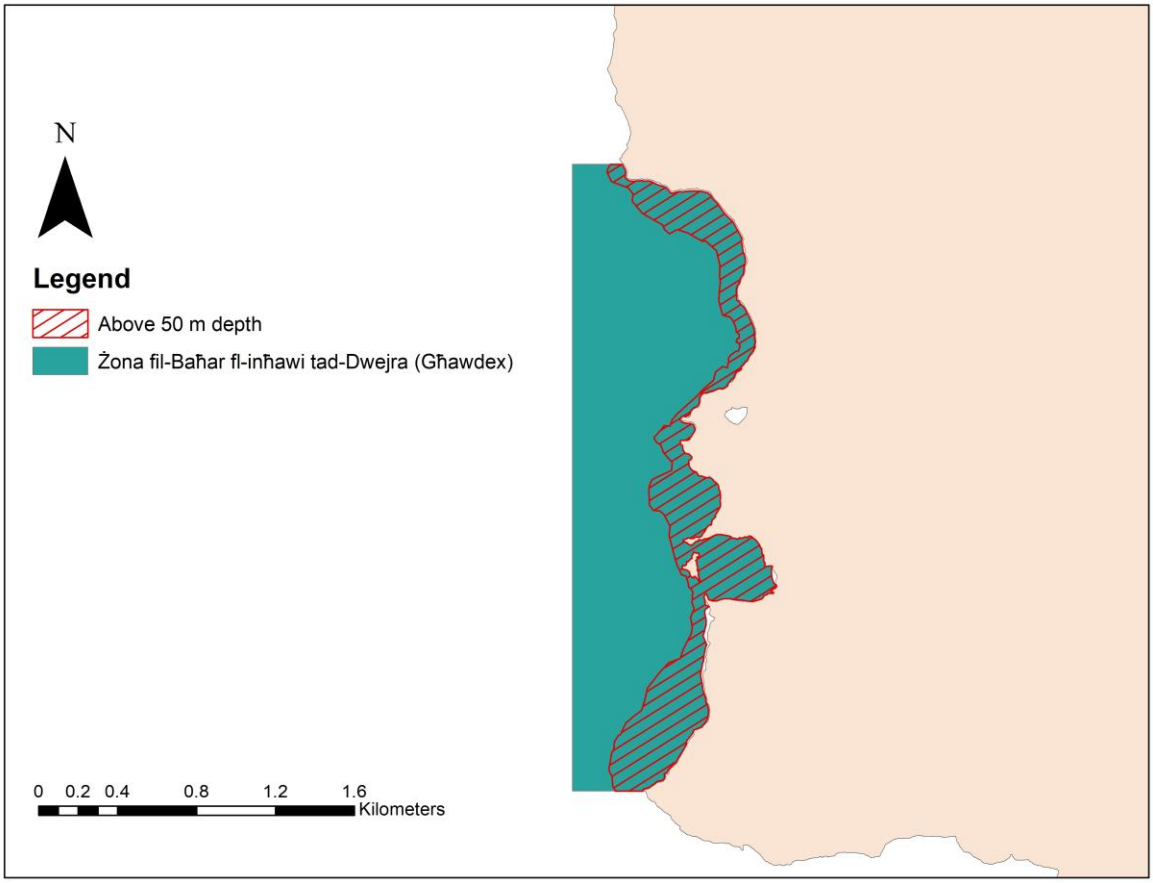


Figure 3: Żona fil-Baħar fl-inħawi tad-Dwejra (Għawdex) (in green) and the area to be mapped (hatched in red).

MT104 - Żona fil-Baħar bejn Il-Ponta tal-Ħotba u Tal-Fessej (Għawdex)

The Posidonia meadows present within this site comprise small patches with average shoot densities. Regarding reefs, the biotopes present in the inlet and beyond its mouth are typical of ones found along the south-western coast of the Maltese Islands. Sand banks are also present at this site. In fact, vegetation belonging to the *Cymodocea nodosa* is present in several places inside the inlet present at this site, where it mainly forms monospecific stands.

Regarding caves, assemblages of sciaphilic algae present on hard substrata at the mouth and entrance of caves are characterised by species such as the chlorophytes *Palmophyllum crassum, Cladophora prolifera* and *Flabellia petiolata*, and sciaphilic brown algae such as *Halopteris filicina* and *Zonaria tourneforti*. The most common type of flora found are red algae (Rhodophyta), such as *Lithophyllum incrustans* and *Peysonnelia squamarina*. This site was proposed as an SCI in 2010, confirmed as an SCI in 2012 and was then extended in 2018.

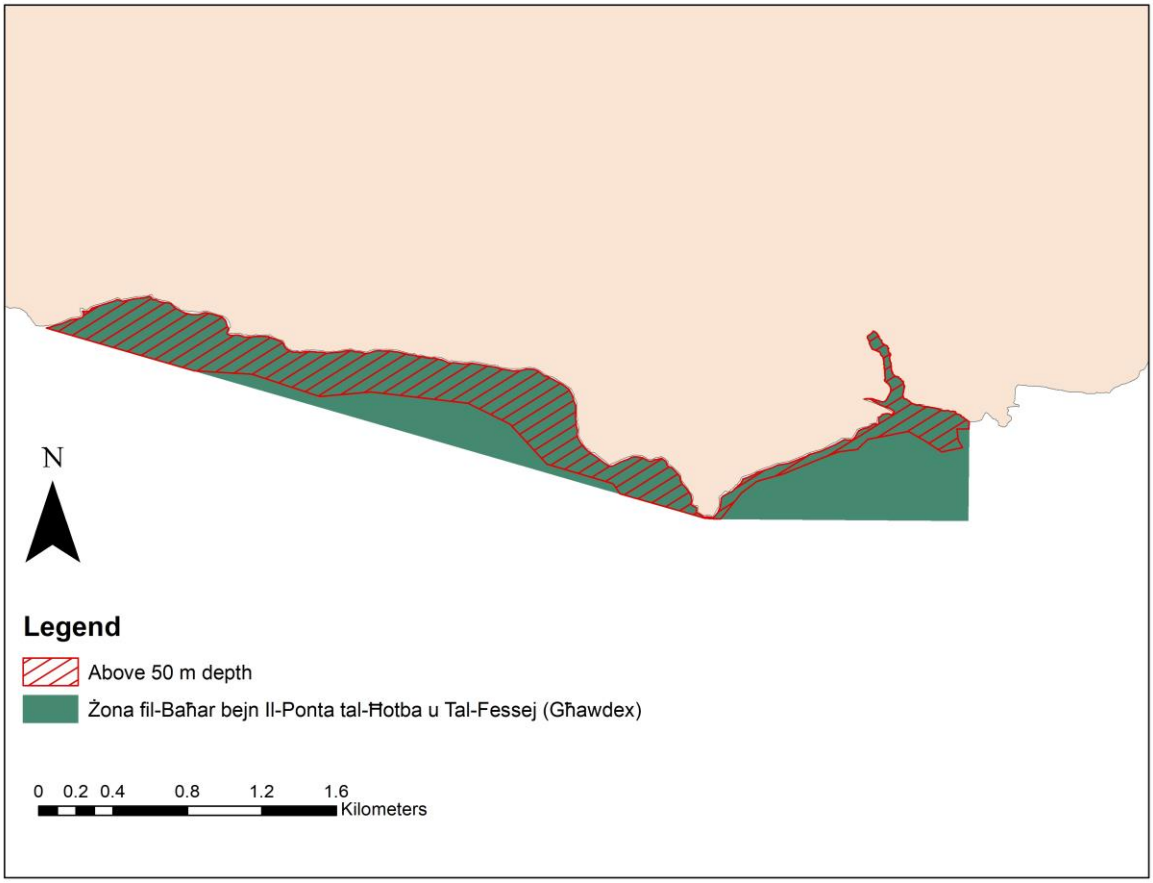
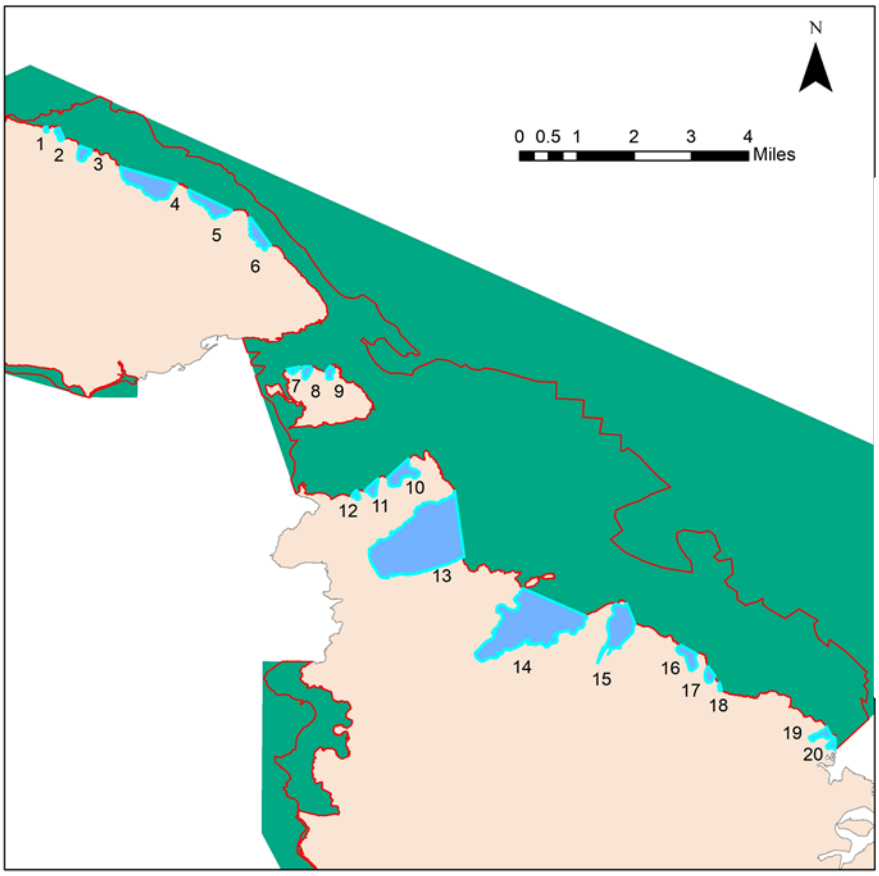


Figure 4: Żona fil-Baħar bejn Il-Ponta tal-Ħotba u Tal-Fessej (Għawdex) (in green) and the area to be mapped (hatched in red).

MT105 - Żona fil-Baħar bejn il-Ponta ta' San Dimitri (Għawdex) u Il-Qaliet

This area hosts the largest variety of Posidonia sub-types when considering the marine sites selected to form part of the Natura 2000 Network, with the representativity of each being considered superior. Reefs have also been identified within this site, occurring on hard beds and rocks. This site was proposed as an SCI in 2010, confirmed as an SCI in 2012 and was then extended in 2018. The following bays 4, 5, 10, 13, 14, and 15 within the MT105 MPA, will be mapped (Fig. 5).



MT105	
Bay	**Area/km²**
4	0.684
5	0.332
10	0.293
13	3.87
14	2.925
15	0.702
Total	**8.806**

Figure 5: Żona fil-Baħar bejn il-Ponta ta' San Dimitri (Għawdex) u Il-Qaliet (in green) and the area to be mapped (hatched in red).

The table below summaries the area above 50m to be mapped within each site:

Site	Total Area (km²)	Area Above 50m (km²) to be mapped
MT103 - Żona fil-Baħar fl-inħawi tad-Dwejra (Għawdex)	2.285	0.672
MT104 - Żona fil-Baħar bejn Il-Ponta tal-Ħotba u Tal-Fessej (Għawdex)	1.688	0.982
MT105 - Żona fil-Baħar bejn il-Ponta ta' San Dimitri (Għawdex) u Il-Qaliet	158.800	8.806
MT101 - Żona fil-Baħar bejn Rdum Majjiesa u Għar Lapsi	14.595	5.592
MT102 - Żona fil-Baħar fl-inħawi ta' Għar Lapsi u ta' Filfla	26.286	5.068

4. Qualifications and experience

This consultancy is open to firms having an experience in mapping, characterization and monitoring of marine key habitats in the Mediterranean and in the use of innovative techniques such as the side scan sonar and Multibeam.

The team must be made up of at least:

- **Project leader:** with experience in habitat mapping and fisheries field missions in the Mediterranean countries.
- **Expert 1:** Specialist in mapping of Marine Habitats and setting up surveillance system for Posidonia meadows and siting of ecological moorings.
- **Expert 2:** Specialist in the use of side scan sonar and/or Multibeam for mapping sea floor and applying GIS to the mapping of the marine environment.
- **Expert 3**: Specialist in assessing the vulnerability of habitats to anthropogenic pressures (e.g. fisheries).
  Expert 4: Specialist in fisheries studies relating to the littoral and marine environment. It is preferable that at least the expert 4 is Maltase speaker to facilitate the exchanges with the various target audiences and the fishermen within the framework of implementation of the fisheries study.

N.B:
- An expert may be proposed to cover at most 2 specialties,
- More than one expert per specialty can be proposed except for the project leader,

5. Methodology of the study

5.1. Phase I: Available knowledge and gap analysis

The phase I of the project consists in collecting available data in order to perform a summary review and a gap analysis highlighting the most relevant gaps in knowledge for the studies areas. These actions will allow to create a baseline of current knowledge in the study areas and to detail the field activities to be carried out.

During this phase, the provider is meant to:

- Make an appraisal of the various studies carried out in the study areas lying between 0 and 50m isobaths, those which concern the marine key habitats in this area, and the monitoring of commercial & recreational fishing and unauthorized fishing
- Assess the pertinence and impacts of these studies as regards the conservation objectives for the study areas and list the achievements, the strong points, and the weak points, of these initiatives,
- Identify and introduce the actors to be involved in this study,
- Identify the means, tools and equipment needed to carry out this study.

Phase I deliverables

The results expected from this phase are the following:

- A summary including a balance sheet of existing knowledge on the study area, making clear any gaps and limits of these studies,
- A methodological note presenting a work plan and detailed work schedule that clearly states the following parameters:
  - A detailed list of the material and equipment to be used for carrying out this study,
  - Technical instructions for the work to be done and the experts to be involved,
  - The positioning system, methodology and tools to use to carry out this study for each area of study (shallow zones, deep zones, habitats with Coralligenous, etc.),
  - Resolution and final scale of each theme-based GIS-format map to be produced,
  - The methodology to be followed to do the fisheries study,
  - The method for assessing how vulnerable, marine habitats that are keys to conservation,

are to fishing activities, whether rules-based or unauthorized,
- The gaps and limits of this study and the solutions advocated.

A validation meeting is to be planned with the ERA and SPA/RAC at the end of this first phase, with the presence of the project leader and one or more representative/s from the firm involved. The validation meeting will be held in ERA office, Malta.

5.2. Phase II: Field work

This phase encompasses the field surveys and assignments and will lead to the elaboration of the GIS maps required in the context of the study.

This is the most important phase, which consists of

5.2.1. Spatial distribution of habitats

- Geophysical survey with:

  Single Beam Echosounder (SBES) survey: A detailed bathymetric map for the study areas should be realized. Some areas may be more investigated (e.g. seamount or canyons). The equipment required to perform the survey shall be, at minimum, a digital single beam echo-sounder operating at dual frequency (200 and 30 kHz) and data acquisition line intervals should not exceed 200 m. The system shall be connected with the navigation software that will receive the depth data, matching them with position and time (time stamping) for further elaborations. In the first instance, the SBES survey shall be carried out along the planned lines for SSS survey. At the end of each day of survey, collected data shall be checked for QA/QC. To achieve statistical reliability, if needed, further SBES survey lines shall be planned and acquired.

- Side scan sonar survey (SSS):

  Depending on the nature of the sea-bottom, the frequency of sonar acquisition should be adapted (with high and low frequencies with ranges varying from 50 to 150 m). In each case, to allow a perfect coverage of the data, the courses should be spaced to assure a minimum overlap of 10% between adjacent lines. The management of the acquisition should be as far as possible orthogonal to the coast with some parallel profiles for information recovery. At the end of each day, the data should be pre-treated and checked for QA / QC (e.g., adequate coverage and resolution of the data). The position of the vessel must be provided by a DGPS correction and acquisition speed should be between 3 and 4 maximum knot (to later allow a high resolution) and towfish position should be provided with almost correcting the distance of the cable and the position of the pulley relative to DGPS antenna ('layback').

Minimum requirements for the SSS system to be provided are the followings:

- Frequency: double frequency, one higher than 500 kHz;
- Cable length: almost 1,5 times the maximum depth to be investigated;
- Lateral range: variable between 50 m and almost 150 m;
- Side scan software Interface shall be capable of:
  - integration with a navigation software;
  - real time update of the layback.

- Multibeam survey (MS):

A detailed bathymetric study of within the 50m. It is estimated that to cover the higher roughness portion at least two days of multibeam surveys will be required. For this purpose, the use of a multi-beam system with a dual frequency (eg 400/200 kHz) shall be provided in accordance with the International Hydrographic Organization's standard. The multibeam system must be connected to a navigation software that will collect bathymetric data and combine them with information from the motion sensor, the steering sensor (Compass) and the positioning system. Everything will be correlated by time (timestamp). The system should be properly calibrated before the start of work.
At the end of each day, the collected data should be verified (QA / QC). To obtain statistical reliability (if necessary, for scale and resolution adopted), other acquisitions must be planned and acquired.

SPA/RAC and the local authorities do not have boats suitable for the use of side scan sonar, it is imperative to include in the offer / the appropriate boat(s) to perform fieldwork.

The necessary steps to obtain permits from the local authorities for the implementation of the fieldwork are borne to the service provider. A national coordinator is hired to facilitate and accelerate these processes including local logistics (boats rentals, diving equipments etc.).

- Elaboration of the first draft of maps:

During the post-processing phase, SBES data should be elaborated as grid of 3D points. Data shall be processed to eliminate erroneous measures (e.g. spikes). The most appropriate statistical interpolation algorithm (e.g. TIN), depending on acquired data, shall be applied to obtain the contour lines (depths) of the study area. Depending on the scale of the map, the isolines shall be uploaded in a GIS project as contours spaced from 0.5 m up to 10 m depth[1].

Side scan sonar raw data shall be elaborated to produce the images that can be visualized and interpreted within a GIS framework. Data must be checked for:

- Position (correct geo-referencing and layback application),
- Bottom track and slant range correction,
- Resolution and color palettes to identify main sea bottom features.

The processed data will provide a first draft of maps to identify the major geomorphological and biological characteristics of the study area. These results, together with all available information, will allow a batter better planning of the second mission.

5.2.2. Habitats characterization

A specific field survey shall be planned to in-deep/*in-situ* study (direct methods) several biological features to complement the quantitative and qualitative characterization of habitats and associated species located in the study area (e.g. Posidonia meadows and coralligenous biocenosis, dark habitats). Depending on the features of the study area, some more techniques must be applied to in deep investigate specific sub-areas:

[1] The delivery is related to the resolution of the map

- Van Veen grab for the sampling and the assessment of soft bottom communities;
- underwater towed cameras, ROV, Scuba diving to investigate hard substrata (e.g. coralligenous associations)
- High-resolution semi-quantitative analyses of photos taken within random quadrats to calculate the coverage of each identified taxonomical unit;
- Photographic documentation for qualitative habitat description (a total of 100 shots in JPG and RAW format, 20 megapixels for all habitat types).

Whenever possible, a small amount of sample shall be collected for taxonomical identifications. This approach usually simplifies the process and limits the impact of sampling activities on the study area.

5.2.3. Initiation of a monitoring network

The default protocol to be used in case of *Posidonia oceanica* meadows will be the protocol for the setting up of monitoring Posidonia meadows monitoring systems[2]. Minimum one *Posidonia oceanica* monitoring system are to be installed in the study areas.

For coralligenous communities, the selected protocol is Garrabou et al. 2014. Minimum one coralligenous monitoring system are to be installed in the study areas.

It is requested that a Water Temperature Data Loggers with precision sounder 0.2°C with 6-year autonomy will be installed in the monitoring area.

Note that a spare Water Temperature Data Logger of the same brand of the one installed in the monitoring point, as well as the software (USB/CD interface cable) and a communication system for downloading data, will be provided by the firm to ERA.

5.2.4. Fish counting

The aim of this assignment is to assess the fish population stock in the study area. The provider is meant to make an underwater visual census (UVC), using a standard method such as Harmelin-Vivien *et al*. 1985, according to the various structures of key habitats in the five study areas.

The results should present the variability of fish assemblages (in terms of species richness, density and biomass, including predators from the high trophic levels and species targeted by commercial & recreational fishing and illegal fishing practices).

5.2.5. Training

During phase II, it is imperative to provide on job training for 6 representatives of ERA, Malta University and NGOs on the different stages of this phase. The provider has to produce training materials and in-situ training activities. Travel and accommodation fees to be incurred by the trainees or their respective organizations.

Identification, quantification, spatial and temporal distribution of commercial & recreational fishing activities and unauthorized fishing in the study areas

[2] Pergent G., 2007. Protocol for the setting up of Posidonia meadows monitoring systems. « MedPosidonia » Programme / RAC/SPA - TOTAL Corporate Foundation for Biodiversity and the Sea; Memorandum of Understanding N°21/2007/RAC/SPA_MedPosidonia Nautilus-Okianos: 24p + Annexes.

This work aims at measuring the impact and intensity of commercial & recreational and illegal fishing in the study areas (to be selected), corresponding to a fishing effort deployed over a given zone and period, and describing as precisely as possible the spatial deployment of the various fishing practices and activities in the site.

The provider is meant to carry out a:

- Data collection

The provider is meant to bring together all the data collected by the fishing activities monitoring programmes (both rules-based and illegal fishing) in the study area that have been carried out by the national authorities or in the context of research projects.

- Fisheries study of rules-based and unauthorised fishing activities in the study area

This work will take into consideration the perceptions and knowledge of fishermen and of the authorities concerned by the fishing activity in the study area via field surveys.

The expected results of this study are:

- Inventorying the various fishing gear type and practices, both for rules-based fishing and for illegal fishing, used in the study area
- Determining the spatial-temporal distribution of the various commercial fishing practices undertaken within the study area
- Assessing the impact of commercial fishing activities on the marine habitats within the study area, plus identifying areas of strong interaction with these identified fishing activities.

Note that the fishing effort will be measured in number of days spent out at sea.

Determining the nature of the interaction between rules-based and unauthorized fishing activities and key habitats, in order to measure the risks engendered by these activities

The methodology to be followed when carrying out this study is based on the method of assessing the risks of natural habitats and species of Community interest being degraded by marine fishing activities (SPN-MNHN 2012). However, the provider may in his offer propose an improvement on this methodology, the pertinence of which will be judged by SPA/RAC and the ERA for its application to the present study.

Phase II deliverables

The deliverables expected from this phase to be submitted at the end of this phase II are the following:

- A daily report on the progress of the field work (geo-referenced notes and remarks arising from the field activities) and on job training
- The route taken and sampling points of each visit
- Photographic and video graphic coverage of the field activities:

  - Photographic coverage of the progress of the study and of the marine species and habitats (a selection of 100 shots will be provided for the various communications needs with the following features: dimension:

5000x3000; format: JPG; density: 20 megapixels)

- Videographic coverage with a minimum of one short version (3 minutes) and one long version (23 minutes) on the progress of the study, with the minimum following features: pixel report: 1/1 sq.; extension/format: mp4; dimension: 1920x1080 full HD; frame: 25 p
- Underwater videos with a minimum of one short version (3 minutes) and one long version (23 minutes) of the study area (marine species and habitats) with snapshot position of the underwater camera.

Phase III: Return phase

Development of thematic maps:

After a QA/QC of the available data, these data will allow to draw up the final thematic maps (e.g. biocenotic and geomorphological), which shall also comply the commonly adopted convention: the legends, symbols and colour for representing Mediterranean biocenoses are reported in Pérès and Picard (1964), Meinesz *et al*. (1983), Bellan-Santini *et al.* (2002), Tunesi *et al.* (2002).

Filling in the SDF (Strandard Data-Entry Form)

Monitoring of selected habitats requires the completion of a zero state or state specific reference, with the guarantee of a measurement reproducibility over time. To this end, the Standard Data Form (SDF)[3], which is an operational tool addressed to the competent national authorities for the assessment of the significance of a site for habitats and species must be compiled.

A one-day meeting is to be planned with the ERA and SPA/RAC at the end of this final phase with the presence of the project leader and one or more representative/s from the firm involved in the activities for the validation of these deliverables . The validation meeting will be held ni the ERA office in Malta.

Phase III Deliverables

Expected products:

* A final report showing:

- a summary description of the study area,
- the parameters adopted (particularly the geodesic),
- the methodology adopted, and the equipment used, including the boat and equipment,
- the main results of the assignments with an interpretation of all the maps, figures and tables,
- geo-referenced notes and remarks from the field activities,
- the route taken and sampling points of each visit,
- the back-up photo and video cover (including underwater) of the progress of the study and the study area, with snapshot position of the underwater camera, as previously specified,
- lists of habitats and species (particularly those characterizing the biocenoses) for each sampling point,
- methodology and results of the fisheries study,
- the main conclusions of the results and recommendations for the protection and management measures to be introduced in the site,
- proposals for recommendations for the management and conservation of the habitats in each zone of the study,

[3] http://www.rac-spa.org/sites/default/files/doc_fsd/sdf_en.pdf

- several map (shapefiles) ready to be put online via the platform on biodiversity (http://data.medchm.net),
- the map of biocenoses/facies/associations identified in the study area (different details and resolution according to the aims of the job),
- the bathymetric map of the marine and coastal zone of the study areas lying between 0 and 50 m down,
- the geomorphological map of the study areas,
- the photomosaic of sonogrammes in raster format,
- the map of spatial and temporal distribution (per day at sea) of the fishing activity per type of fishing practice, both for ruled-based fishing and for unauthorized fishing,
- fish biomass maps,
- maps of interaction between fishing activities and key habitats,
- maps of sensitivity of habitats to fishing activity, whether rules-based or unauthorized, identified in the study areas,
- photographic and video coverage of the field activities:

  * photographic coverage both of the progress of the study and of the marine species and habitats (a selection of 100 photos will be provided for the various communications needs with the following features: dimension: 5000x3000; format: JPG; density: 20 megapixels
  * video coverage with a minimum of a short version (3 minutes) and a long version (23 minutes) on the progress of the study, with the following features: pixel report: 1/1 sq., extension/format: mp4; dimension: 1920/1080 full HD; frame: 25 p
  * underwater videos with a minimum of a short version (3 minutes) and a long version (23 minutes) of the study area (marine species and habitats) with snapshot position of the underwater camera.

6. Particular remarks

6.1. **Language**: Reports and maps must be provided in English, in three copies in hard and electronic format.

6.2. **Submission of the deliverables**: The provider should submit the requested reports and deliverables to SPA/RAC within a minimum **15 days** before the date of the anticipated meetings (dates of meetings will be set as the study progresses). The provider should hand over the final versions of the reports and deliverables, including possible remarks made by the validation meetings, within a maximum **15 days** starting from the date of the meeting.

6.3. **Materials and means of implementation**: The provider must mobilize all the specified equipment and every other necessary equipment for the completion of the work in hand.

6.4. **Miscellaneous costs**: Travel and accommodation costs, as well as insurance for the team and equipment, will be borne by the provider.

6.5. **Documents for the permits**: once the contract signed, the contractor must provide all the documentation required by the local authorities (detailed list of human resources, logistics, copy of ID documents, etc.) within 21 days for a timely obtention of the permits that are vital for the field work. The process of granting the necessary permits can only start when all the required documents are handed over to UNEP/MAP-SPA/RAC. Any delay in the delivery of the said documents causing a budgetary impact on the provision will be charged to the provider . The steps necessary for obtaining the permits from the local authorities for carrying out the field work at sea will be the responsibility of the ERA and facilitated by the national Coordinator. With the aim of facilitating and speeding up the steps for obtaining the permits, it is desirable to rely on local logistics (renting boat, diving equipment, etc.)

ADMINISTRATIVE SPECIFICATIONS

Article 1 - Conditions for participation in the bidding

The service provider firm must have proven competence in mapping, characterization and monitoring of marine habitats in the Mediterranean and in the use of innovative techniques such as the side scan sonar and Multibeam.

Bids from joint venture and firm's consortiums are authorized on condition that they are a solidarity group and the leader is clearly identified in the consortium deed, an original copy of which should be included with the bid.

Article 2 – Content of the offer

The offers document must include a technical offer and a financial offer.

Technical offer

It must contain:

1. The firm's references regarding similar studies[4]. Certificates: reception certificate, acceptance minutes or any other documentary evidence delivered by the study sponsors, must be provided as proof; the budget of similar studies mentioned as firm's reference must be mentioned by the firm participating to this call of tender.
2. The CV of the proposed experts (signed/initialed by the expert on every page of the CV) with their background, qualifications, experience and references (including copies of their university diploma(s)).
3. A methodological note including the organization of the work, the planning and time schedule, the chronogram of intervention of the team members and the complete list of equipment to be used (side scan sonar, ROV, craft, DGPS, towed camera, diving equipment, boats) along with their specifications.

Financial offer

The financial offer must be expressed in tax-free prices in Euros. It should include all the costs connected to the provision of the service and presented in the template attached in Annex 1.

The financial offer should also include the following administrative documents:

1. A tax certificate, valid on the offer submission date, proving that the firm has no outstanding tax obligations.
2. A certificate proving that the tenderer is registered in the commercial register.
3. A statement delivered by the social security body to which the provider is affiliated stating that all dues have been paid and which is valid on the date of submission.
4. A sworn statement of non-bankruptcy.
5. A sworn statement that the firm is in no situation that could in any way be incompatible with the mission or compromise independence in carrying out the mission.
6. A sworn statement from each of the members of the work team, who are not staff members, confirming that they are willing to participate in the work team to carry out this mission.
7. Call of tender signed (date, signature and stamp of the provider firm at the end of the document).
8. Submission letter, using the template attached in Annex 1;
9. Estimated details of global tender price, using the template attached in Annex 2 and 3.

Should any of the administrative documents 1 to 7 be missing, the firm will be contacted to complete the offer documents within a period of ten days. If after a period of 10 days, the documents are still not complete the offer will be eliminated.

[4] Could be considered as a similar study, any study leading to the mapping of marine and coastal habitats.

Article 3 - Submission of offers

Offers must be received electronically at the following e-mail address:
car-asp@spa-rac.org, before 4 July 2019, 23:59 Malta time.

E-mails should have the following subject:
"**Call for tender/SPA-RAC/ MedKeyHabitats II Project n°6/2019_SPA RAC"**

Proposals received after this deadline will not be considered.

In the event that certain tenderers have information to request or have questions about one or more parts of the bidding documents, they should refer to the customer by e-mail address at car-asp@spa-rac.org, with copy to Yassine Ramzi Sghaier (yassineramzi.sghaier@spa-rac.org) in order to obtain the necessary clarifications before transmitting ten (10) days before the deadline of the submission of the offers.

The answers will be sent by email and published on the SPA/RAC website. Where appropriate, addenda to the call of tenders may also be added to it by the client, in order to clarify the understanding of the tender documents or to bring changes to the information concerning the workplaces, the project, the terms of reference, the agreement or the other tender documents.

No answer will be given to verbal questions and all interpretation by tenderer of the tender documents that has not been subject of an addendum will be rejected and cannot imply the responsibility of the client.

Article 4 - Definition, consistency and variation of prices

The services provided as part of this assignment consist of an overall fixed and non-revisable cost.

Article 5 - Terms of payment

Payment for the mission will be made as follows:

- 20% after validation of phase I and submission of the final version deliverables and their approval by SPA/RAC
- 40% after validation of phase II and submission of the phase II deliverables and their approval by SPA/RAC
- the balance after validation of the deliverables and final documents of phase III and submission of the final report version

Article 6 - Offer evaluation procedure

6.1 Evaluation of technical offers

Only offers with complete administrative documents will be subject of technical evaluation.
The evaluation committee will first examine the technical offers and will attribute a score to each offer according to a scale of 100 points maximum, based on the following criteria:

1- Firm's general experience and technical references (20 points).
2- Evaluation of the proposed project team and it's experience (55 points)
3- Methodology, organization and implementation schedule (25 points)

Criteria			Notation
1- Firm's general experience and technical references. Working experience in the Mediterranean is an asset. (references presented by the competing firms will be assessed according to their nature, number and delivery date)	**a- Nature and number of similar jobs, references delivered by study sponsors must be provided as proof**	Nature and number of similar studies justified.	**15 points maximum** (4 points/reference, 1 additional point/reference in the Mediterranean)
		No similar studies	0 points (in this case the offer is eliminated)
	b- Date when the most recent studies were carried out	Less or equal to 5 years	**5 points** maximum (1 point/study)
		Between 5 and 10 years	0,5 point/study
		Over 10 years	0 points
2- Evaluation of the proposed project team and its experience in the Mediterranean is an asset (assessment will be based on the number of similar studies the proposed specialists have contributed to and the nature of their qualifications).	**a- Project leader**	Experience in similar studies	**10 points maximum** *(3 points/* as project leader in *similar study,* 1 additional point/reference in the Mediterranean) *(1.5 points/ as expert in similar study, 0.5 additional point/reference in the Mediterranean)*
		No similar study	0 points (in this case the offer is eliminated)
		MSc degree in Biological Oceanography/Marine Living Resources	**5 points**
		Below MSc degree or in field far from the one requested	0 points (in this case the offer is eliminated)
	b- Expert 1	Experience in similar studies	**6 points maximum** *(3 points/ similar study,* 1 additional point/reference in the Mediterranean
		No similar study	0 points (in this case the offer is eliminated)
		MSc degree in Biological Oceanography/Marine Living Resources	**5 points**
		Below MSc degree or in field far from the one requested	0 points (in this case the offer is eliminated)
	c- Expert 2	Experience in similar studies	**6 points maximum** *(3 points/ similar study)*
		No similar study	0 points
		MSc degree in Marine Geophysics	**4 points**
		Below MSc degree or in field	0 point

		far from the one requested	
	d- Expert 3	Experience in similar studies	**6 points** au maximum *(3 points/ similar study)*
		No similar study	0 point
		MSc degree in marine conservation, marine biology, fisheries, coastal zone management or equivalent field	**4 points**
		Below MSc degree or in field far from the one requested	0 point
	e- Expert 4	Experience in fisheries studies	**6 points maximum** *(3 points/ similar study)*
		No similar study	0 point
		MSc degree in socio-economic, fisheries or marine living resources	**3 points**
		Below MSc or in a field far from the one requested	0 point
Only the project leader can hold more than two positions, in this case his CV will be evaluated 2 times following those criteria. **In case the bidder proposes more than one expert per position, each CV will be evaluated separately, and the score given will be the lowest attributed among the experts proposed for the same position.**			
3- Methodology, planning time schedule, chronogram of intervention of the team, and complete list of equipment to be used	**a- The methodological note**	Methodology clearly presented, well developed and meets the terms of reference and the study's objectives **(the presentation of improvements and innovations is possible and will represent an asset)**	**15 points**
		Methodology more or les welldeveloped but meets the terms of reference and the study's objectives	10 points
		Methodology poorly developed and fairly meets the terms of reference and the study's objectives	5 points
		Methodology not clearly presented and does not meet the terms of reference and the study's objectives	0 points
	b- Planning, time schedule, chronogram of intervention of the team, and list of equipment to be used	Realistic planning clearly presented, coherent with the chronogram of intervention and the time schedule and the list of equipment to be used	**10 points**
		Realistic planning but more	5 points

		or les well presented, fairly coherent with the chronogram of intervention, the time schedule and the list of equipment to be used	
		Planning unclearly presented, doesn't respects the deadline, or no chronogram, or no time schedule and no list of equipment to be used presented.	0 point

If the content of an offer is markedly incomplete or differs substantially from one or several technical criteria specified in the offer documents, the offer will be eliminated without being rated.

Any offer that has not attained the minimum score of 80 points will be eliminated. In the event no offer obtains 80 points or more, the offer processing will be canceled.

6.2 Evaluation of the financial offers

Once the technical evaluation has been completed, the offers that have not been eliminated during the technical evaluation will be examined.

The evaluation committee will check that the financial offers do not contain any obvious arithmetical errors. Any possible obvious arithmetical errors will be corrected, and the corrected figures will be taken into consideration.

The evaluation committee will then proceed to a financial comparison. The lowest financial offer will receive 100 points. The other offers will be attributed a score based on the following equation:

Financial score = (amount of the lowest offer/amount of the offer in question) x 100

6.3. Conclusions of the evaluation commission

The choice of the best offer is achieved by weighting the technical and financial scores using a distribution key on an 80/20 basis. To this end:

- The technical score will be multiplied by a coefficient of 0,80.
- The financial score will be multiplied by a coefficient of 0,20.

The weighted technical - financial scores thus calculated will be added to ascertain the offer with the best technical and financial score.

If two offers obtain the same technical-financial scores, preference will be given to the firm in the following order:

- having obtained the best technical score
- having obtained the best total score for experience and qualifications of experts.
- having obtained the best score for methodology.

Article 7- Deadline for the execution of the mission

The maximum time allocated for carrying out the study is 7 months as from the date of signature of the contract without however exceeding the deadline of 31 May 2020, including the deadlines for handing in the final documents according to the following timeline:

- 2 months for phase 1
- 3 months for phase 2
- 2 months for phase 3

Article 8- Monitoring, control and validation of the work

The service provider will work under the supervision of a monitoring steering committee composed of SPA/RAC and the Environment & Resources Authority (ERA). The service provider will submit the deliverables for each of the phases. The service provider will submit in the final version of deliverables 15 days after monitoring steering committee has made its observations and comments on the draft report and the validation meeting.

Article 9- Penalty

In the absence of completion by the tenderer of the services at his charge within the contractual deadlines envisaged in article 7, it will be applied as of right and without notice, a penalty of one three hundredth (1/300) of the total amount of the contract for each calendar day of delay.

The amount of the late penalties will be deducted from the accounts. The amount of the penalties is capped at 10% of the total amount of the contract. When this limit is reached, SPA/RAC reserves the right to terminate the contract at the provider's fault, in accordance with article 14, and without that the provider can raise disputes or claim any compensation.

Article 10-Copyright, ownership of documents

All materials produced, including maps and photos, within the scope of this contract are intended for free distribution and will be the property of the ERA and UNEP-MAP SPA/RAC and the names and logos of ERA and UNEP-MAP SPA/RAC will appear as appropriate; mention will be made of the financial support provided by MAVA Foundation.

Article 11-Arbitrage, dispute settlement

Every dispute arising from or in connection with this contract execution shall be solved by way of amicable negotiations by the parties. This agreement is deemed to have been made in Tunisia and to be subject to Tunisian law. In case of dispute, the Court of Tunis is competent.

Article 12-Liability & insurance

The SPA/RAC does not accept any liability for acts of third parties, accidents, sickness, losses of any kind, however caused arising during the implementation of the specific actions and the production of the relative outputs expected. The bidder confirms that their selves or any involved staff will be covered by appropriate insurance.

Article 13: Force majeure

Force majeure means any event outside the control of a Party so that it is impossible for one party to carry out his obligations or the implementation of these obligations becomes so difficult that it is considered to be impossible to carry them out under such circumstances.

The party which invokes force majeure must inform his co-contractor within seven (07) days of its occurrence so that the contractual deadline will be suspended with a joint agreement between the parties for the period which is covered by the case of force majeure.

SPA/RAC has a right to assess the circumstances of the impediments invoked by the holder as a case of force majeure to see if they are convincing and should this not be the case, then the days of discontinued work will be accounted for as days of delay.

Failure by either Party to fulfill any of his contractual obligations does not entail a contract termination or failure to fulfill his contractual obligations if such a failure is due to a case of force majeure, if the Party that finds himself in such a situation has done the following/

a. has taken all the reasonable precautions and measures to allow him to comply with the terms and conditions of the present contract; and

b. has informed the other Party of the event as soon as possible. Any timeline given to a Party for the execution of his contractual obligation will be prolonged by a period which is equal to the period during which that Party was prevented from fulfilling his obligations.

Any timeline given to a Party for the execution of his contractual obligations will be prolonged by a period which is equal to the period during which that Party was unable to fulfill his obligations due to the case of force majeure.

Article 14: Cancellation conditions

SPA/RAC could cancel this contract in case of the no respect of the deadline of the execution (Article 7. Duration, deadlines and schedule for the implementation) and in the case described in the article 9- Penalty when the amount is capped at 10% of the total amount of the contract or of the non-conformity to the content of the service listed in the technical specification of the present tender documents. In case of cancellation, the payment will be done in proportion to the tasks already carried out.

Article 15: Provisional and final Acceptance

The provisional acceptance is pronounced after complete completion of the services, that is, after the finalization of all the phases described in the article 7 and point 6 of the "Technical Specifications". The evaluation of the deliverables of the different phases (reports, maps, etc.) will be carried out by SPA/RAC within 30 days. The provisional acceptance will be pronounced only in the case of complete conformity deemed conclusive by SPA/RAC and this, through a provisional acceptance report signed jointly by the service provider and SPA/RAC. The service provider must correct any deficiencies identified by SPA/RAC in the completion of the different phases.

Final acceptance will be given three (3) months after the date of provisional acceptance without reservation of the contract. The final acceptance report will only be drawn up once the service provider has fulfilled all his obligations resulting from the obligations of article 7 and point 6 of the "Technical Specifications" and after corrections of any deficiencies identified.

ANNEX 1

SUBMISSION LETTER

I, the undersigned …… (Director) of ……...recorded in the commercial register on ……under the number ……. Domiciled at ……...
After having taken due note of the dossier documents of the call for tenders N° …….. launched by ……, pertaining to a mission of …….. ……...

I hereby pledge to execute the requested services in conformity with the provisions defined in the documents referred to, for the prices as established by myself without taking into account the taxes and knowing that the stamp duties and registration are to be covered by the insurer.

The total price of my bid amounts to …….. (……) Euros

I take due note of the fact that you are not obliged to proceed with the tendering procedure and that I cannot claim a compensation.

I pledge that the conditions in my tender will remain valid for a period of one hundred and twenty days (120 days) starting from the day after the date for the deadline for the receipt of tenders.

SPA/RAC pledges to pay the amount after the signing of a convention into the bank current account of the Bank …… ……. In the name of ……Under the number of ……. RIB (BIC – IBAN) ……

In ……, on …….

(Name, first name and function)

Right for submission

(Signature and official stamp)

ANNEX 2 - DETAILS OF GLOBAL PRICE

The consulting firm, in support of its bid, should provide a breakdown of each unit price according to the following model:

Designation	Unit price	1st phase		2nd phase		3nd phase		Total phases (1+2+3)	
		Duration	Sub-total	Duration	Sub-total	Duration	Sub-total	Duration	Sub-total
Fees									
Project manager									
Expert 1									
Expert 2									
Expert 3									
Expert 4									
Other costs									
Travel and accommodation									
Other costs necessary for the proper execution of the present consultancy									
Sub-total/phase									
							TOTAL		

Amount of bid, is fixed at the sum of ……In ……, on …….

(Signature and official stamp of bidder)

ANNEX 3 - DETAILS OF PRICE PER SITE

The consulting firm, in support of its bid, should provide a breakdown of each unit price according to the following model:

Designation	Unit price	1st phase		2nd phase		3nd phase		Total phases (1+2+3)	
		Duration	Sub-total	Duration	Sub-total	Duration	Sub-total	Duration	Sub-total
-MT101 - Żona fil-Baħar bejn Rdum Majjiesa u Għar Lapsi									
-MT102 - Żona fil-Baħar fl-inħawi ta' Għar Lapsi u ta' Filfla									
-MT103 - Żona fil-Baħar fl-inħawi tad-Dwejra (Għawdex)									
-MT104 - Żona fil-Baħar bejn Il-Ponta tal-Ħotba u Tal-Fessej (Għawdex)									
-MT105 - Żona fil-Baħar bejn il-Ponta ta' San Dimitri (Għawdex) u Il-Qaliet									
Sub-total/phase									
TOTAL									