



## **BELIZE MARINE CONSERVATION AND CLIMATE ADAPTATION PROJECT (MCCAP)**

Ministry of Forestry, Fisheries and Sustainable Development

### **STATEMENT OF CAPABILITY**

#### ***Consultant for the Realignment of Boundaries and the Creation of New Zones for the Targeted Marine Protected Areas under MCCAP***

#### **Grant No: P131408**

The Government of Belize, in collaboration with the World Bank (WB) and the Adaptation Fund (AF) is implementing the project entitled “***Marine Conservation and Climate Adaptation Project***” (MCCAP). The **project development objective** is to implement priority ecosystem-based marine conservation and climate adaptation measures to strengthen the climate resilience of the Belize Barrier Reef System and its productive marine resources.

The MCCAP is being implemented by the Ministry of Forestry, Fisheries and Sustainable Development (MFFSD) through a dedicated Project Implementation Unit (PIU) housed within the Fisheries Department with Fiduciary Management by the Protect Areas Conservation Trust (PACT).

Implementation of the MCCAP will be over a five (5) year period. The project has four components:

- *Component 1: Improving the protection regime of marine and coastal ecosystems;*
- *Component 2: Support for viable and sustainable alternative livelihoods for affected users of the reef;*
- *Component 3: Raising awareness, building local capacity, and disseminating information;*
- *Component 4: Project Management*

**MCCAP is seeking an Individual Consultant with the critical minimum requirements listed below:**

- Minimum Associate degree in Science, Geography, Computer Science or GIS related field;
- At least 3 years experience working with GIS software (Desktop GIS, spatial DBMS, and related tools), coordinate geometry, data conversion and validation, spatial analysis and visualization in the field;
- Working knowledge about the technical aspects of geographical data management and utilization;
- Working knowledge about data processing and evaluation in the field of marine resources and in organizing and collection, storage and usage of geographic data;
- Ability to handle a large volume of work in an effective and timely manner;
- Demonstrated ability to work with diverse stakeholders in a collaborative way;

The expected start date of the Consultancy is January 2016. The total duration of the Consultancy should not exceed 5 months.

MCCAP now invites individual consultants interested in undertaking the assignment to submit their Statements of Capability. In submitting their Statements of Capability, applicants should be aware that they will be assessed based on the following areas:

- (a) Qualifications
- (b) Experience of the individual relative to the particular assignment
- (c) Availability of Candidate for the proposed consultancy period.

The terms of reference for the assignments can be viewed on-line at <http://www.belize.gov.bz>, <http://www.pactbelize.org>, <http://www.coastalzonebelize.org> or can be requested from [andrea@pactbelize.org](mailto:andrea@pactbelize.org).

One original and two (2) hard copies of each submission in the English language must be delivered by **3:00 pm on Friday 20<sup>th</sup> November 2015** to:

Procurement Officer  
Protected Areas Conservation Trust (PACT)  
#3 Mango Street  
Belmopan City  
Belize

The sealed envelope containing the Statement of Capability must include the name and address of the applicant and should be clearly marked **“Statement of Capability: The realignment of boundaries and the creation of new zones for the targeted Marine Protected Areas under MCCAP”**

MCCAP shall not be bound to assign any reason for not selecting any applicant and will not defray any costs incurred by the applicant in the preparation and submission of statements.



## **BELIZE MARINE CONSERVATION AND CLIMATE ADAPTATION PROJECT (MCCAP)**

Ministry of Forestry, Fisheries and Sustainable Development

### **TERM OF REFERENCE**

#### **Consultancy for the realignment of boundaries and the creation of new zones for the targeted Marine Protected Areas under MCCAP**

#### **1. INTRODUCTION**

The Marine Conservation and Climate Adaptation Project (MCCAP) places specific emphasis on the Turneffe Atoll Marine Reserve (TAMR), South Water Caye Marine Reserve (SWCMR), Corozal Bay Wildlife Sanctuary and Estuary Lagoon Systems (CBWS). The selection of the three MPAs was based on Government's ongoing protected areas rationalization exercise, which aims to provide recommendations for "building on the current network protected areas, improving functionality, connectivity and socio-economic benefits as Belize moves into a future with increasing anthropogenic pressures, overshadowed by the need to adapt to current and predicted climate change impacts". These three MPAs are critical in terms of the integrity and connectivity of marine ecosystem and climate impact.

CBWS and SWCMR were declared in 1996, while Turneffe Atoll was legally declared a marine reserve November 2012, and by its designation, Belize's MPA system has been expanded to about 20% of Belize's jurisdictional sea. MCCAP will refine and demarcate the newly designated boundary of TAMR, support an expansion of the Corozal Bay Wildlife Sanctuary (CBWS), and realignment of fully-protected (non-extractive) zones for TAMR, SWCMR, and CBWS to obtain a national increase of fully protected replenishment zones from an existing 2% to 3.1% of Belize's territorial sea. To achieve this spatial mapping and analysis of the three MPAs will be realigned/expanded.

Geographic Information Systems (GIS) and remote sensing tools will be used to spatially map and analysed the targeted MPAs boundaries' expansion and realignment. CBWS, in particular, will be re-mapped as recommended in the National Protected Areas Rationalization report<sup>1</sup> to include part of the northern coastal lagoon system and saline savannah. The overall expansion or refinement process for the targeted MPAs will take into strong consideration the inclusion of such ecosystems as rapidly disappearing littoral forest and beach vegetation, some national cayes (particularly national cayes and inundated mangroves on Turneffe) that through research and

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<sup>1</sup> Wildtracks, 2012. Rationalize Exercise of the Belize National Protected Areas System (Draft).

monitoring have been found to exhibit crucial structural components that allow for quick recovery or resilience to climate disturbances (e.g., increased sea surface temperatures), and refugia-areas that experience less change than others. Protection of functional groups, keystone species, and representative habitats (e.g., coral reefs across depth gradient, mangroves, seagrass beds, lagoon systems, and fish spawning aggregation sites) will be prioritized. Major features will be highlighted that could promote the replenishment of fisheries and restoration of ecosystem balance.

The purpose of this Consultancy is to support the boundary realignment of the targeted three Marine Protected Areas (MPAs) with spatial services. Project deliverables will include spatial data, maps, and analyses that inform the planning process and decision-making leading to the design of the realignments. This work will require spatial data collection, manipulation, and analysis.

## **2. OBJECTIVES**

The objective of this consultancy is to create an integrated geospatial database and data catalogue with all best-available spatial data and/or create spatial data or representations for the targeted Marine Protected Areas.

## **3. TASKS AND ACTIVITIES**

The Consultant will work with personnel from the Fisheries and Forest Departments to provide Geographic Information Services (GIS) that support the development of Marine Protected Areas realignment and designation of new zoning schemes wherever necessary. This work will require spatial data collection, data management and manipulation, and spatial analyses. The final product (including prepared maps) is the property of the Fisheries and Forest Departments. Below are the tasks to be done by the Consultant (including but not limited to):

1. Collaborate with the Fisheries and Forest Departments to define the scope of work to be done and develop a work plan, which outline roles, responsibilities, and timelines;
2. Collaborate/consult with key stakeholders in the execution of this project;
3. Prepare inception report, including detailed implementation plan and time-frame;
4. Identify and compile the best available spatial data layers for administrative and regulatory boundaries, ecological and oceanographic features and human uses and activities that are within the MCCAP's project scope;
5. Ensure all mapping outputs align with the datum used in the National Protected Areas map;
6. Create an integrated geospatial data catalogue, with metadata, and ensure all metadata contain source information, brief description of data and how it was collected;
7. Create a data catalogue for all layers needed and/or available in MS Excel;
8. Perform quality control and quality assurance (QA/QC) of the spatial information prior to using it to develop spatial products for the project;
9. Prepare maps and other intermediate spatial products as requested for the Fisheries and Forest Departments as needed during the project to support the planning process, for use in discussion documents, inclusion on websites, use in presentation and for use in reports;
10. Prepare printable maps (with Arc GIS or similar software) for reporting;
11. Work closely with the Fisheries and Forest Departments towards effective mapping of the realigned and new zones of the targeted protected areas, and development of coordinates for integration into the revised Statutory Instruments for each protected area;
12. Participate and provide in-person GIS support at stakeholder workshops, including

- presentations, upon requested;
13. Develop spatial products for stakeholder workshops including maps, GeoPDFs, and PowerPoint presentations, as requested;
  14. Participate in field activities for ground-truthing, as required.

#### 4. DELIVERABLES

The following deliverables will be submitted by the Consultant to the Project Coordinator:

- i. Inception report
- ii. Create an integrated geospatial database (QA/QC of all spatial layers) for all available data layers utilized during the project, and a data catalogue in MS Excel;
- iii. Final realignment and new zones maps in Jpeg and GeoPDF format;
- iv. Coordinates for integration into revised protected area Statutory Instruments.

#### Schedule of Deliverables

<b>Deliverables</b>	<b>Timeline (Calendar weeks)</b>
Inception report	No later than 3 weeks
Creation of integrated geospatial database	No later than 10 weeks
Final realignment and new zones maps including coordinates for integration in the revised MPA Statutory Instruments	No later than 14 weeks
Final project report	No later than 16 weeks

#### 5. QUALIFICATIONS AND EXPERIENCE

- Minimum Associate degree in Science, Geography, Computer Science or GIS related field;
- At least 3 years experience working with GIS software (Desktop GIS, spatial DBMS, and related tools), coordinate geometry, data conversion and validation, spatial analysis and visualisation in the field
- Working knowledge about the technical aspects of geographical data management and utilization.
- Working knowledge about data processing and evaluation in the field of marine resources. and in organizing and collection, storage and usage of geographic data.
- Ability to handle a large volume of work in an effective and timely manner.
- Demonstrated ability to work with diverse stakeholders in a collaborative way.

#### 6. TARGET

This Consultancy will primarily target fishermen and non-fishery sector stakeholders whose activities utilize the same marine resources within the project priority areas (TAMR, SWCMR). Secondary targets may include fishery policy makers, NGO's, eco-tourism operators, coastal communities, private sector, and youth and students. The main coastal communities to be targeted are Consejo Village, Corozal Town, Copper Bank Village, Chunox Village, Sarteneja Village, Belize City, Dangriga Town, Hopkins Village, Sittee River Village, Riversdale Village, Seine Bight Village, and Placencia Village. The PIAG will provide the Consultant with a list of organizations and individuals related to the target groups above.

## 7. PROJECT MANAGEMENT

Belize, under the leadership of the Ministry of Forestry, Fisheries and Sustainable Development (MFFSD) with fiduciary management assistance from the Protected Areas Conservation Trust (PACT) as the National Implementing Entity (NIE) and the World Bank as Multilateral Implementing Entity (MIE), is responsible for the implementation of the Marine Conservation and Climate Change Adaptation Project (MCCAP) in the coastal areas of Belize. The Project Implementing Agency Group (PIAG) housed within the Fisheries Department and staffed by full-time and part-time consultants is responsible for the coordinating MCCAP implementation. The PIAG consists of a Project Coordinator (PC), a Senior Technical Officer (STO), staff from Fisheries Department, and fiduciary staff of PACT. The PC will be directly supervised by the Fisheries Administrator.

MCCAP is a five year project designed to implement a priority ecosystem-based marine conservation and climate adaptation measures to strengthen the climate resilience of the Belize Barrier Reef System and its productive marine resources. Specifically, the project will support:

- i. improvement of the reef's protection regime including an expansion and enforcement of the Marine Protected Areas (MPAs) and Replenishment (no-take) Zones in strategically selected locations to strengthen climate resilience,
- ii. promotion of sustainable alternative livelihoods for affected users of the reef, and
- iii. building local capacity and raising awareness regarding the overall health of the reef ecosystem and the climate resilience of coral reefs.

MCCAP will benefit three Marine Protected Areas (MPAs), namely, the Corozal Bay Wildlife Sanctuary (CBWS), the Turneffe Atoll Marine Reserve (TAMR), and the South Water Caye Marine Reserve (SWCMR). These MPAs are fished by fishermen mainly from 12 coastal communities, namely: 1) Consejo Village, 2) Corozal Town, 3) Copper Bank Village, 4) Chunox Village, 5) Sarteneja Village, 6) Belize City, 7) Dangriga Town, 8) Hopkins Village, 9) Sittee River Village, 10) Riversdale Village, 11) Seine Bight Village, and 12) Placencia Village.

### Management structure

- The Consultant will report to the MCCAP Project Coordinator, located at the Fisheries Department, Belize City.
- The MCCAP Project Coordinator will provide regular technical assistance to the Consultant and will also serve as the liaison between the Consultant and the Fisheries Department.

## 8. DURATION OF THE CONSULTANCY

The expected start date of the Consultancy is January 2016. The total duration of the Consultancy should not exceed 5 months.

## 9. PAYMENT SCHEDULE

Payments will be made on the basis of review and acceptance of deliverables as stipulated below.

<b>Deliverables</b>	<b>% proposed payment</b>
Inception report	30
Creation of integrated geospatial database	30
Final realignment and new zones maps	20

Final project report	20
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## **10. REPORTING**

One electronic copy (Microsoft Word and printable version) and three hard copies of all reports must be submitted to the MCCAP Project Coordinator. The documents must be written in English. The PIAG is responsible for approving the final versions of the reports in consultation with the Technical Advisory Committee and Project Steering Committee.

## **11. MONITORING AND EVALUATION**

The results to be achieved by the Consultant are specified in Section 5 above. Progress to achieving these results will be measured by the main Monitoring and Evaluation indicators:

- i) Timeliness of works and other services provided;
- ii) Geo-spatial maps prepared;
- iii) Technical outputs prepared, finalized and approved by PIAG;
- iv) Met project objectives and activities.

The Consultant may suggest additional monitoring tools for the duration of this project.