

## Terms of Reference

### Title

Consulting Services to conduct a mid-project feasibility and cost-benefit analysis on technological solutions currently being used by TASA for long-term implementation. This study is part of a project titled "Improving Management of Turneffe Atoll Marine Reserve (TAMR) Through Technological Solutions".

### Background to Turneffe Atoll Sustainability Association (TASA)

The Turneffe Atoll Sustainability Association (TASA) was established to address the unique ecological and socio-economic challenges faced by the Turneffe Atoll Marine Reserve (TAMR) which encompasses one of the largest coral atolls in the Western Hemisphere. TASA's mission is to promote the sustainable use of marine resources in TAMR while enhancing the resilience of local communities dependent on these ecosystems. Through collaborative efforts with government agencies, local communities, and international partners, TASA aims to implement best practices in marine conservation and fisheries management. Key initiatives include enforcement, fisheries management, community education, sustainable tourism practices, and the integration of technology in monitoring and management efforts. TASA's commitment to safeguarding the atoll's biodiversity while supporting the livelihoods of local fishers plays a fundamental role in its ongoing projects, including the current feasibility study aimed at improving management through technological solutions.

### Background on Turneffe Atoll Marine Reserve

The Turneffe Atoll Marine Reserve (TAMR) faces ongoing challenges related to effective management, enforcement, and data collection concerning its fisheries and biodiversity. In response, TASA is initiating a project aimed at enhancing management through integrated technological solutions, with specific objectives focusing on enforcement, scientific data collection, community outreach, and visitor management. A feasibility study is required to assess the viability of the initiatives mentioned above, identify potential challenges, and recommend strategies for implementation.

### Project Information

In May 2023, TASA signed a two-year grant agreement with the Belize Fund for a Sustainable Future (Belize Fund) to implement the project titled: "Improving Management of Turneffe Atoll Marine Reserve (TAMR) Through Technological Solutions".

*Project goal* – to advance the protection of biodiversity and sustainable fisheries management in the Turneffe Atoll Marine Reserve (TAMR) and contribute to a proof of concept for securing ecosystems and building economic resilience.

*Rationale* – Turneffe Atoll Sustainability Association (TASA) is piloting a blended finance and adaptive management model as a new approach to Marine Protected Areas management.

This model takes a sustainable development approach where several income streams including donor funds, visitor contributions, and an impact investment are combined for obtaining financial, environmental (biodiversity) and social returns on investment.

The purpose of this proposed 24-month project is to harness digital technology to enhance the management effectiveness of TAMR. With the recent expansion of the replenishment zones of the TAMR, this project will protect biodiversity and ensure sustainable fisheries management as key milestones and commitments of the Belize Blue Bonds. It will contribute to at least two Belize Fund Thematic Areas; 1.) Protection for Biodiversity and 2.) Sustainable Fisheries, comprising the two main components of this project. This project is aligned with, and contributes to, the newly developed management plan for TAMR, National Fisheries Policy & Plan, and the multispecies finfish management plan for Belize.

*The Problem* – All of the documents listed above have identified overfishing (Illegal, Unreported, and Unregulated - IUU) as the largest anthropogenic threat to reef biodiversity, environmental conservation and the provision of ecosystem services critical to food security, productivity and income generation in the Meso-American Reef region. For the past six years, the Healthy Reef Index Report Card for Belize (including Turneffe) has shown a downward trend in reef health, particularly for coral cover, and commercial and herbivorous fish biomass.

*The Solution* - Addressing these problems requires significant investment in law enforcement, science for adaptive management, and visitor management. TASA continues to make these investments; however, there is still a significant gap in finances to take the necessary actions to obtain optimal management levels. This project will contribute to increasing management effectiveness by harnessing digital technology to integrate enforcement and fisheries management, and to finetune visitor management using digital solutions. Integrated technological solutions will include expansion of the Spatial Monitoring and Reporting Tool (SMART) functions to also track and report commercial catch, track and report visitor use, re-engagement of local communities through boat-to-boat meetings, community meetings, and school visits which will expand and enhance TASA's adaptive management program for fisheries and tourism management.

### **Objectives of the Feasibility Study**

1. **Assess the Current State of Technology Utilization:** Evaluate existing technology solutions (e.g., SMART, drones, radar, mobile app) in use by TASA and their effectiveness in enforcement and data collection.
2. **Analyze Community Needs:** Meet with local stakeholder groups to understand their needs and challenges regarding fisheries management and the potential impacts (negative and positive) of proposed digital solutions.



3. **Cost-Benefit Analysis:** Conduct a cost-benefit analysis to help determine the efficacy of the technologies in use and how they help improve TASA's performance towards achieving desired results.
4. **Evaluate Financial Viability:** Identify funding sources, budgetary needs, and projected economic impacts of implementing the technological solutions.
4. **Examine Regulatory and Policy Considerations:** Review existing regulations and policies that may affect the implementation of the digital tools and recommend necessary adjustments.
5. **Recommendations and Implementation Plan:** Propose specific recommendations for effective use of technologies in use by TASA and possible new technologies. Develop a comprehensive plan outlining steps for adopting the technological solutions, including timelines, required resources, and potential partners.

#### **Scope of Work**

- Review the current technological solutions currently in use by TASA.
- Conduct key stakeholder interviews and/or workshops to gather qualitative data on the needs, challenges, and opportunities of the stakeholder communities.
- Review and analyze relevant literature on technology in marine conservation.
- Identify potential risks and barriers to successful implementation.
- Provide a detailed report summarizing findings and recommendations.

#### **Deliverables (Incorporated into one document)**

- Detailed feasibility study report including:
  - Assessment of current technology and stakeholders' needs addressing the effectiveness of the technology solutions in meeting stakeholders' needs.
- Financial viability analysis
- Regulatory implications overview
- Implementation plan
- Presentation of findings to TASA management.

#### **Qualifications of the Consultant**

- Preferred competence – master's degree in marine science including fisheries and/or marine/coastal resources management.
- Required competence – minimum of a bachelor's degree in natural resources management with at least five years of experience in the use of technology for marine law enforcement, visitor management, and marine resources monitoring.
- Expertise in marine resource management and conservation technologies.
- Proven experience conducting feasibility studies or evaluations for similar projects.
- Strong analytical and communication skills in English.

### **Timeline**

The feasibility study is expected to be completed within six weeks from the date of contract signing.

### **Budget**

The budget for this consultancy will be determined based on proposals received, with consideration for the scope and timeline outlined in this Terms of Reference. Supported costs will include travel, meals, accommodation, and consultant fees. The budget should clearly show the breakdown of the various costs mentioned above including the daily rates for consultant fees.

### **Application Process**

Interested consultants are invited to submit proposals by **August 16, 2024**, including CV, proposed methodology, and budget estimate. Proposals should be sent to Joseph Villafranco via email at [joe@tasabelize.com](mailto:joe@tasabelize.com) using the subject 'Consultancy for Mid-Project Feasibility'.

Only shortlisted candidates will be contacted for an interview/follow-up. TASA reserves the right to reject any or all proposals. After the selection of a consultant, a contract will be signed outlining specific deliverables and timelines.

### **Confidentiality**

All information obtained during this consultancy must be treated as confidential and used solely for the purpose of completing this project. Any publication or dissemination of findings must be approved by TASA.