

# Scientific and Technical Advisory Panel



The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility (Version 5)

## STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening: 10 November 2008

Screener: David Cunningham

Panel member validation by: Paul Ferraro

### I. PIF Information

Full size project GEF Trust Fund

GEFSEC PROJECT ID<sup>1</sup>: 3729

GEF AGENCY PROJECT ID:

COUNTRY: The Bahamas

PROJECT TITLE: Building a Sustainable National Marine Protected Area Network – The Bahamas

GEF AGENCY: UNEP

OTHER EXECUTING PARTNERS: Bahamas Environment, Science and Technology (BEST) Commission, Department of Marine Resources, Bahamas National Trust, UNEP, and The Nature Conservancy;

GEF FOCAL AREAS: Biodiversity, with relevance to International Waters, Climate Change

GEF-4 STRATEGIC PROGRAM(S): BD-SP1, BD-SP2, with relevance to IW-SP 1

### II. STAP Advisory Response (see table below for explanation)

1. Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies):  
**Minor revision required**

### III. Further guidance from STAP

2. STAP has provided comments on earlier versions of this project concept and will assist with the development of an experimental design that will include control groups for the pilot project interventions on lionfish control and sustainable fisheries management. The final project document should:
  - a. Set realistic objectives for lionfish control, including assessing the feasibility of eradication at relevant scales through the proposed pilot projects
  - b. Define methods for selection of protected areas for inclusion in the network, identify the data sets to be used and the process for developing indicators for management interventions
  - c. Consider whether some experimental variation can be incorporated into the location decisions for new marine protected areas themselves to help identify the impact of the MPAs.

#### A. Managing the impacts of lionfish on the environment

The PIF describes both eradication and control of lionfish with outcomes including lionfish eradication pilot projects, statistically significant lionfish decrease, and tracking potential paths of lionfish spread. The results of this work should collectively inform future strategies for managing the impacts of lionfish in the Caribbean and tropical Atlantic. Eradication can be defined as the complete and permanent removal of all wild populations from a defined area by a time-limited campaign<sup>2</sup>. This cannot be achieved without closing off all re-introduction pathways. If the analysis of these introduction pathways, such as oceanic currents, reveals that they cannot be managed to prevent future lionfish incursions then the emphasis of lionfish interventions should be on ongoing control.

Lionfish eradication/control indicators should be based on lionfish census counts over time, intervention measures taken, and census counts at control sites through a well designed experimental approach. At all sites, information should be collected that could affect the populations of lionfish, e.g. well managed fisheries may partly control the lionfish as some of the larger reef fish can eat the lionfish.

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<sup>2</sup> Other definitions exist, e.g. FAO and IPPC and use 'application of phytosanitary [and other] measures to eliminate a pest from an area'; OIE uses 'the elimination of a pathogenic agent from a country or zone'. The CBD has not adopted a definition but its Guiding Principle 13 in the annex to decision VI/23, sets out some issues to consider when assessing the feasibility of eradication (<http://www.cbd.int/decisions/cop6/?m=COP-06&id=7197&lq=0>).

Commercial use has been proposed as one possible method to maintain lionfish populations at a low level<sup>3</sup>. However, STAP notes that commercial use can contribute to intentional spread of invasive species and recommends careful analysis of any proposed control measures.

**B. Prioritising areas for inclusion in the Protected Area Network and Evaluation of Effectiveness**

Activity 1 of Component 2 includes collection and analysis of updated data on priority ecosystems for input into site selection decisions, inclusion in management plans and in the Revised Master Plan (to be completed by project end). The process for prioritising sites for inclusion in the MPA network should be based on a reliable data set and carried out in a systematic way to optimise the global environmental benefits.

Indicators for management interventions will need to measure the status of coral reefs, other habitats and resources and the socio-economic issues, including governance. The Nature Conservancy (TNC) has developed some coral reef assessment methods that may be appropriately adapted for the Bahamas and be suitable to feed into Global Coral Reef Monitoring Network (GCRMN) biennial status reports. Governance, social and economic indicators should be developed in accordance with the Large Marine Ecosystem governance evaluation framework and the *Handbook on Governance and Socioeconomics of Large Marine Ecosystems*<sup>4</sup>.

**C. Experimental variation**

STAP welcomes the proponent’s intention to experimentally evaluate the effectiveness of its lionfish eradication efforts and its community-based management interventions. STAP encourages the proponents to also consider if some experimental variation can be incorporated into the location decisions for new marine protected areas themselves. The effectiveness of marine protected areas is controversial, particularly in tropical areas, and one reason is that confounding factors mask or mimic the impacts of protected areas (see, for example, CEBC Systematic Review #23, “Are marine protected areas effective tools for sustainable fisheries management? I. Biodiversity impacts of marine reserves in the temperate zone”). In other words, the characteristics that affect where MPAs are located also affect the indicators that are measured. If one can create some spatial or temporal variation in the way in which MPAs are located that is independent of the outcomes to be measured, there will be a greater chance of identifying the impact of the MPAs (small sample sizes may still hinder this, but the Bahamas MPAs can be grouped with other tropical MPAs for a larger analysis). STAP is available to assist the project proponents in considering the potential for such a design.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Consent	STAP acknowledges that on scientific/technical grounds the concept has merit. However, STAP may state its views on the concept emphasising any issues that could be improved and the proponent is invited to approach STAP for advice at any time during the development of the project brief prior to submission for CEO endorsement.
2. Minor revision required.	STAP has identified specific scientific/technical suggestions or opportunities that should be discussed with the proponent as early as possible during development of the project brief. One or more options that remain open to STAP include: (i) Opening a dialogue between STAP and the proponent to clarify issues (ii) Setting a review point during early stage project development and agreeing terms of reference for an independent expert to be appointed to conduct this review The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.
3. Major revision required	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical omissions in the concept. If STAP provides this advisory response, a full explanation would also be provided. Normally, a STAP approved review will be mandatory prior to submission of the project brief for CEO endorsement. The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.

<sup>3</sup> By Reef Environmental Education Foundation (Reef), see <http://www.telegraph.co.uk/earth/main.jhtml?xml=/earth/2008/10/20/ealionfish120.xml>

<sup>4</sup> See [http://www.iwlearn.net/abt\\_iwlearn/pns/learning/resolveuid/0ad164029569bc6c2065fd5204bbc136](http://www.iwlearn.net/abt_iwlearn/pns/learning/resolveuid/0ad164029569bc6c2065fd5204bbc136)