## Marine Parks Developing Zoning Plan for Tun Mustapha Park

#### Introduction

The proposed Tun Mustapha Park (TMP) is located at the northern tip of Sabah, Malaysian Borneo, at the apex of the Coral Triangle. With 1.02 million hectares of marine and coastal areas, it will be the largest marine protected area and the first multiple-use marine park in Malaysia, once it is gazetted.



Fishing is a primary economic activity in the region, contributing

**22%** of total marine fisheries production in Sabah PE Research, 2011

#### Background

The region is globally significant for its marine life, contains a rich diversity of coral reef, mangrove, and seagrass habitats as well as several rare and endangered species. It is also home to over 187,000 people living in three districts, namely Kudat, Pitas, and Kota Marudu. Half of the inhabitants depend on marine resources for their livelihood and wellbeing.

As a sustainable solution for local communities and for marine resources as well, the proposed Tun Mustapha Park is planned to be gazetted in 2015 with the zoning plan that is based on different zones identified for different purposes.

Trawl and purse seine fisheries are the two largest fisheries within the region. Other significant fisheries include the live reef fish trade, long line and small scale artisanal fisheries

#### The Sabah State Government approved three goals of the Tun Mustapha Park management:

- **1.** Eradicate poverty
- **2.** Develop sustainably
- **3.** Conserve habitats and threatened species



One of the six technical woking groups, called the Zoning Working group of the Interim Steering Committee, - chaired by the Ministry of Tourism, Culture, and Environment, established in 2011 to make management decisions for TMP - is focused on zoning the region for multiple uses.

Setting criteria in the process for the different zones is important to ensure each biodiversity feature and proposed use is adequately represented. Therefore, several criteria workshops were conducted between 2007 and 2012 to identify various zones within the proposed TMP.

The data gathered were crucial to identify the needs of the proposed park's zones. A community survey was conducted in 2006-2007 to gather local knowledge on resource use patterns and biodiversity in TMP. These data are supplemented by on-going data gathering including habitat mapping, fisheries surveys and ecological surveys.

#### Systematic Conservation Planning

A systematic conservation planning tool, Marxan with Zones was selected as a repeatable, transparent, and scientifically credible method to develop a potential zoning plan for TMP. Two main types of data were collected from scientific surveys and local knowledge and used in the planning process:

**1**.Conservation features, including habitat and species data;

**2.**Cost features, including the location of villages and fishing effort

Based on the conservation objectives of:

(i) sustainable use of resources, and

(ii) protection of biodiversity,

Marxan with Zones was used to identify priority areas for four different zones:



- **1.** Preservation zone, where all extractive activities are prohibited
- 2. Community managed zone; where non-destructive small scale and traditional fishing activities are allowed
- **3.** Multiple use zone, where non-destructive and small scale fishing activities and other sustainable development activities including tourism are allowed
- 4. Commercial fishing zone, where all fishing activities are allowed



#### **MARXAN Process Flow Chart**



TMP was divided into 4 different ecological regions on the basis of potential ecological influence of sea currents and wind movements to the development of coral reef ecosystem.

### Factors Considered During Zoning Process:



- 3 nautical miles from main land and 2 nautical miles from islands
- Existing fisheries reserve in Marudu Bay

 High concentration of coral reef habitats

#### Four Scenarios Developed from the Systematic Conservation Planning



Preservation Zone (PZ) Community Managed Zone ( CMZ) Multiple Use Zone (MUZ)

#### **Scenario 1**



#### Description

- **30%** of every habitat/ species features in a No Take Zone (NTZ)
- **30%** of limestone reefs protected under Preservation Zone (PZ) and 30% under Community Managed Zone (CMZ)
- **70%** of fishing ground covered either in CMZ or Multiple Use Zone (MUZ)
- **30%** (of 70% above) of fishing ground within CMZ with a preference for places near villages

#### **Scenario 3**



#### Description

- **20%** of every habitat/ species features in a No Take Zone (NTZ)
- **30%** of limestone reefs protected under Preservation Zone (PZ) and 30% under Community Managed Zone (CMZ)
- **95%** of fishing ground covered either in CMZ or Multiple Use Zone (MUZ)
- **30%** (of 70% above) of fishing ground within CMZ with a preference for places near villages

#### Scenario 2



Description

- **50%** of every habitat/ species features in a No Take Zone (NTZ)
- **30%** of limestone reefs protected under Preservation Zone (PZ) and 30% under Community Managed Zone (CMZ)
- **50%** of fishing ground covered either in CMZ or Multiple Use Zone (MUZ)
- **25%** (of 70% above) of fishing ground within CMZ with a preference for places near villages

#### **Scenario 4**



#### Description

- **70%** of every habitat/ species features in a No Take Zone (NTZ)
- **30%** of limestone reefs protected under Preservation Zone (PZ) and 30% under Community Managed Zone (CMZ)
- **70%** of fishing ground covered either in CMZ or Multiple Use Zone (MUZ)
- **35%** (of 70% above) of fishing ground within CMZ with a preference for places near villages

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#### **Final Selection**

A final scenario targetting 30% of key habitats in fully protected area and 70% of traditional fishing ground remain accessible was selected to draft the zoning plan for TMP.

#### **Conservation target:**

At least **30% of each habitat and special feature** in each ecological region should be represented in the preservation zone:

- 1. Coral reefs
- 2. Sea grass,
- 3. Mangroves.
- 4. Special features:

Balambangan limestone caves, as turtle nesting and feeding areas, and dugong habitat





At least **70% of small scale fishermen's fishing grounds** (within 3 nautical miles from the shore) should be covered in either Community Managed or Multiple Use zones to ensure that traditional and non-destructive fishing practices could be continued

A target of **30% of key habitats included within a fully protected zone** is anticipated to provide protection for biodiversity within TMP while protecting the well-being of coastal fishermen dependent on these resources. A spatial planning process is undertaken to assist in the integration of both biodiversity conservation and fisheries management objectives.

#### **Current Status**

Public consultations were carried out from August 2012 to June 2013 to present the Tun Mustapha Park Draft Zoning Plan to stakeholders, including local communities, fishers, and government agencies.



Funded by :

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