

# **Ecosystem-based Management in a proposed marine protected area: Tun Mustapha Park, Sabah**

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WWF-Malaysia is advocating for shifts in natural resource management towards an ecosystem approach. In the marine realm this is guided by several framework documents (Grieve and Short 2007, Ward *et al.* 2002) and has relevant principles and specific steps for moving towards them. Part of the process includes establishing a policy and regulatory framework which shifts natural resource management. This is underpinned by changing indicators from being primarily based on production to sustainability by including the health of the ecosystem as a key indicator of success in management. Malaysia is already working towards this at several sites and at varying scales. The development of the tri-national Sulu-Sulawesi Marine Ecoregion (SSME) conservation plan and its subsequent implementation is an example of Ecosystem Based Management of Fisheries (EBMF) at a large-scale. At a slightly smaller scale, the process towards the gazettment of the proposed Tun Mustapha Park in northern Sabah is also EBMF.

The Kudat-Banggi Priority Conservation Area (PCA), in the northern region of Sabah, which is also the proposed Tun Mustapha Park (TMP), was identified as globally important for biodiversity in the SSME Conservation Plan. It was proposed as a multiple use park by the Sabah state government in 2003. Measuring at an approximately 1.028 million hectares, TMP, once fully gazetted, will be the largest marine park in Malaysia. It encompasses around 50 islands including Banggi, the largest island in Malaysia, and boasts a high diversity of ethnic groups from the coastal communities of the Bajau, Ubian, Suluk, Kagayan, Balabak and Bajau Laut to the inland communities of Rungus, Bonggi and Dusun among others. Including the communities on the coastal mainland, there are approximately 80,000 people living in and around the proposed park. The majority of these people rely in part on the park's marine resources. There is a need for the park to be gazetted because of the area's high biodiversity, concentration of coral reefs, mangroves and the richness of fisheries in the region. The proposed park's objectives are to protect habitats and support livelihoods for artisanal and commercial fishers.

The concept for the park is to be a multiple use, managed area which includes areas for strict protection, tourism, artisanal fishing and commercial fishing among others. When it is gazetted, success of the park should be based on social and biological indicators as well as collaborative management procedures that includes mechanisms for consultation with all stakeholders. WWF-Malaysia, along with government, local community and industry partners, has been working towards establishing the ecosystem based management of Tun Mustapha Park's ecosystems and fisheries since 2003.

Following the principles and objectives of EBMF, WWF-Malaysia is working to develop the foundation for management in the TMP region. This includes developing maps of ecosystem features and values, identifying and developing stakeholder profiles, and conducting consultations with identified stakeholders to build a shared vision around the proposed management regime.

1) Mapping – Habitat and community mapping

Since 2006, WWF-Malaysia has collaborated with the communities of TMP to map important habitats, ecosystems, and areas for livelihood generation. Working with coastal communities and fishermen, community mapping was conducted to document important traditional fishing area, sea turtle nesting beaches, distribution of biodiversity such as sea turtles and dugongs based on observations, and common environmental issues in the area. Commercial fishers have identified important commercial fishing ground such as demersal, purse seine and crab fishing ground. The community mapping process complements on-going ecological surveys and GIS-based mapping of ecosystem features of TMP including coral reefs and mangrove mapping and habitat profiling.

## 2) Stakeholder profiles – Rapid Rural Appraisal

From September 2006 to June 2007, WWF-Malaysia in collaboration with Sabah Parks conducted a community survey, using Rapid Rural Appraisal (RRA) Methodology that combined both quantitative and qualitative survey methodologies, to better understand the coastal community profile of TMP. Information on socio-economic background and level of awareness on marine biodiversity, ecosystems and management were collected through interviews, while information on each village surveyed was gathered through interviews of key informants. During the survey, 53 coastal villages were surveyed and 509 respondents were interviewed. The survey found that the coastal communities within the Kudat-Banggi PCA are mainly primary resource users with low income and little education, and are mostly engaged in fishing throughout the 3-nautical mile zone of coastal areas with aspirations for alternative livelihood to alleviate their socio-economic condition. Information from this survey have led to a better understanding of the community within TMP, and will be useful in building a shared vision for the conservation of TMP/Kudat PCA.

## 3) Building a shared vision

In support of the establishment of the proposed TMP and conservation of the Kudat-Banggi PCA, WWF-Malaysia is working to build community support towards ensuring continuous sustainable use of fisheries resources, protection of biodiversity and maintenance of marine ecological integrity in the area. Greater involvement of stakeholders in management decisions is a central tenant of Ecosystem Based Management of Fisheries concepts, including IUCN and FAO frameworks. WWF-Malaysia hopes to achieve this through the implementation of a four strategies which includes a continuous Community Education, Participation and Awareness (CEPA) activities. Local communities are primary resource users that directly affect the biodiversity and marine ecosystems around them, and have primary interest in the management of their resources.

WWF-Malaysia is working closely with the commercial fishers of TMP to promote adoption of good fishing practices and raising awareness on the benefits of marine protected areas in addressing declining fisheries resources. Working through various groups including the *Persatuan Pemilik Kapal Nelayan Kudat (PPKNK)*, WWF-Malaysia hopes to build support for the establishment of no-take zones and compliance to non-fishing areas in TMP, and for the commercial fishers to be self monitoring in all aspects from catch monitoring to compliance monitoring.

Building capacity is an important aspect in ensuring greater involvement of communities in resource management. Through the Honorary Wildlife Warden Programme of the Sabah Wildlife Department, local communities of TMP from the three districts of Kudat, Kota Marudu, Pitas and sub-district of Banggi are trained in the enforcement of the Sabah Wildlife Enactment 1996. In 2008, 30 locals were trained and 16 were appointed as Honorary Wildlife Wardens. An Honorary Wildlife Warden is

authorised to enforce the Sabah Wildlife Enactment 1996, as well as to be an educator and role model to others aside from being an informant to the Sabah Wildlife Department.

Realising the importance of working with youths and the younger generation, WWF-Malaysia also promotes volunteerism and stewardship among the youths of local communities. In Karakit, Banggi, WWF-Malaysia is working with the youths to raise awareness on marine conservation, promote green lifestyle among local communities, enhance their capacity to look after the natural resources and environment, and raise awareness on the importance of sustainable development and marine protected areas in support of the proposed Tun Mustapha Park. Activities are carried out through the Banggi Environmental Awareness Centre (BEAC), located in the heart of Karakit, the administrative centre of Banggi Island.

BEAC was established in 2002 through the collaboration of the Sub-District of Banggi, Sabah Fisheries Department and WWF-Malaysia. It started as a centre for information dissemination and environmental education. Today BEAC is growing stronger and continues to play its role as a centre of information through the exhibition and information resources available. BEAC also continues to provide a venue for awareness activities targeted at a wide range of audiences including school children and adults, including regular educational shows, theater, competitions in drawing, reading and writing, learning sessions and outdoor activities such as beach clean-ups and Discover SCUBA. These activities are jointly run by the Banggi Youth Club (BYC) and WWF-Malaysia.

WWF-Malaysia facilitated the formation of BYC and the group is in the process of getting registered with the Registrar of Society. With formations of groups such BYC, WWF-Malaysia hopes to create grass root groups that are appreciative of marine conservation, and that also act as multiplier of outreach and awareness activities towards building stronger support for TMP.

### Conclusion

The proposed Tun Mustapha Park is part of the evolution of resource management around the world and in Malaysia. A paradigm shift in resource management is occurring with the development of this protected area. A few parks in Sabah are already being managed with local communities living within them and maintaining their lifestyles. The establishment of Tun Mustapha will represent a major shift towards conservation and sustainable resource use. The use of zones will protect important habitats and the inclusion of local communities and commercial activities will allow for sustainable resource use. The establishment of adequate indicators for management and a monitoring plan will allow for managers to understand the successes and gaps in the park and make necessary changes on a regular basis.

### References

- Grieve, C. and K. Short. 2007. Implementation of ecosystem based management in marine capture fisheries: Case studies from WWF's marine ecoregions. WWF International. Gland, Switzerland. 75pp.
- Ward, T., D. Tarte, E Hergerl, K. Short. 2002. Policy Proposals and Operational Guidance for Ecosystem-Based Management of Marine Capture Fisheries. WWF-Australia.