

MARINE PROTECTED AREA

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Marine Protected Areas

Definition

The term Marine Protected Areas include marine reserves, fully protected marine areas, no-take zones, marine sanctuaries, ocean sanctuaries, marine parks, locally managed marine areas, to name a few. Basically, it is an area of the ocean where human activities are more strictly managed than in the surrounding waters, in a similar way protected areas and parks operate on land. Many of these have quite different levels of protection, and the range of activities allowed or prohibited within their boundaries varies considerably too.

Goals of Marine Protected Area (MPA)

Marine protected areas have been designed to achieve a number of objectives. We can protect marine habitats and the diversity of life that they support. In addition, we can also focus on the preservation of historical sites such as shipwrecks. Not only that, we can ensure that our resources are sustainable. The existence of MPA can also ensure that fish are able to reproduce and maintain healthy populations.

Purpose of Marine Protected Area

Natural and cultural heritage conservation.

The aims are to conserve and restore biodiversity within an area's ecosystems. Some national marine sanctuaries and national refuges for wildlife are some examples. Historical assets such as shipwrecks, and some of the national maritime sanctuaries, national parks such as Tunku Abdul Rahman Marine Park in Kota Kinabalu and Pulau Tiga are also covered by the MPA.



Underwater Post Office - The post office is situated at a height of nearly 20 meters on a cargo shipwreck sunk for environmental purposes in 2006.
Source: (Loader, 2013)

The areas will be managed in such a way as to encourage the development of living resources (fishes, shells, plants, etc.) which rely on the habitat of the protected areas for feeding, breeding, and spawning. For examples, Fisheries Prohibited Area such as Tanjung Tuan Melaka and Rantau Abang.



Rantau Abang – one of the Fisheries Prohibited Areas in Malaysia because it is the location of giant leatherback turtle stop by to lay their eggs.
Source: (Rozainah Zakaria, 2015)

List of Marine Protected Areas (MPA) in Malaysia

Marine protected areas in Malaysia consists of 4 differing kinds of marine protected areas; marine park, fisheries prohibited area, wildlife reserve and turtle sanctuary. There are five management authorities that manage the marine areas in Malaysia. the primary two agencies are; Department of Fisheries under Ministry of Agriculture and Agro-based Industry (MoA) and Department of Marine Park Malaysia under the Ministry of Natural Resources and Environment are liable for management of marine areas in Peninsular Malaysia. the opposite managing agencies are Sarawak Forestry Department, Sabah Parks and Sabah Wildlife Department who are to blame for the management of marine protected areas within the state of Sarawak and within the state of Sabah, respectively

LIST OF MARI+D3:G24NE PROTECTED AREA IN MALAYSIA

MARINE PARK	FISHERIES PROHIBITED AREA	WILDLIFE RESERVE	TURTLE SANCTUARY
PULAU TIOMAN	PULAU SELANG BESAR	SAMUNSAM	PULAU PENYU
PULAU SEMBILANG	PULAU TALANG-TALANG BESAR	PULAU TUKANG ARA-BANUN	PULAU SIPADAN
PULAU SRI BUAT	PULAU TALANG-TALANG KECIL	KULAMBA	PULAU LAYANG-LAYANG
PULAU TINGGI	RANTAU ABANG	LANKAYAN	SEMPORNA
PULAU SIBU	TANJUNG TUAN	KUALA PAHANG	RANTAU ABANG
PULAU BESAR	TANJUNG TUAN 1	PULAU EMPAT	
PULAU PEMANGGIL	TANJUNG TUAN 2		
PULAU AUR	PULAU BESAR		
PULAU HUJUNG			
PULAU RAWA			
PULAU TENGAH			
PULAU HARIMAU			
PULAU MENSIRIP			
PULAU YU BESAR			
PULAU YU KECIL			
PULAU TENGGOL			
PULAU NYIREH			
PULAU PERHENTIAN BESAR			
PULAU PERHENTIAN KECIL			
PULAU SUSU DARA			
PULAU LANG TENGAH			
PULAU REDANG			
PULAU EKOR TEBU			
PULAU LIMA			
PULAU KAPAS			
PULAU PINANG			
PULAU JAHAT			
PULAU CHEBEH			
PULAU LABAS			
PULAU SEPOI			
PULAU TOKONG BAHARA			
PULAU SEMBILANG			
PULAU TULAI			
PULAU KACA			
PULAU SEGANTANG			
PULAU PAYAR			
PULAU LEMBU			
PULAU RASUKAN BESAR			
PULAU RASUKAN KECIL			
PULAU KURAMAN			
TAMAN TUN MUSTAPHA			
TAMAN TUNKU ABDUL RAHMAN			

STATE COLOUR

	JOHOR
	TERENGGANU
	PAHANG
	KEDAH
	SABAH
	SARAWAK
	NEGERI SEMBILAN
	MELAKA

Importance of Marine Protected Area

Benefits for Human

For human being, we can see the advantages in term of tourism. This will attract tourists from outside of the marine protected areas. This includes jobs, coastal security, the conservation of habitats, global climate change and policy, as well as dispute resolution. MPA also allows us to preserve local communities, economies and environments that are intricately connected to the aquatic ecosystem.



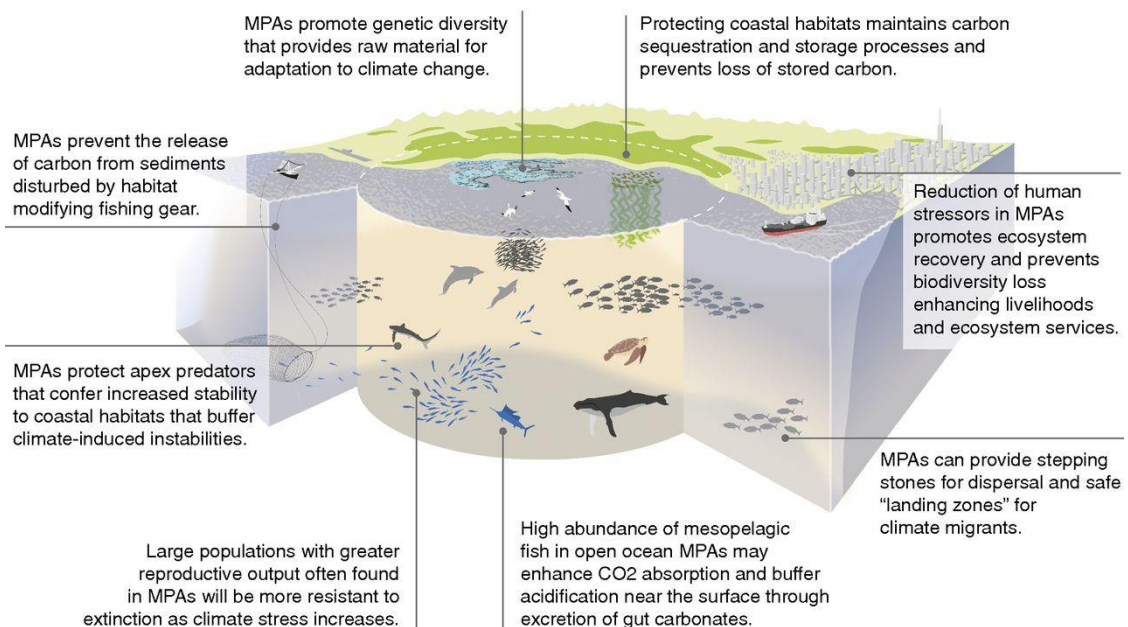
Semporna, Sabah is one of the most beautiful island in the world.

Source: (The Star, 2019)

Benefits for Nature

The benefits to ecology are equivalent to the restoration of biodiversity, which has an effect on biological processes such as in nutrient cycle. Increasing the abundance of previously fished species can have positive effects on the flow of fish throughout the food web. For example, the increase in snapper and rock lobster in the Cape Rodney-Okakari Point Marine Reserve was associated with a marked decrease in the abundance of kina or sea urchins and the regeneration of kelp beds. This, in essence, is likely to increase the total biodiversity and productivity of the marine reserve. Next, in term of climate stability. Establishing MPA networks is vital to sustaining climate change adaptation and restoring ecological and social resilience. For example, MPAs that protect coastal ecosystems such as barrier islands, coral reefs, mangroves and wetlands mitigate human exposure to climate change and provide the natural resources that people depend on. Strictly managed MPA networks of coastal carbon ecosystems (mangroves, seagrasses, salt marshes) will guarantee that no additional pollution result from the destruction and degradation of these areas. Around the same time, they promote new carbon sequestration by restoring damaged marine ecosystems. MPA also helps to protect critical habitats. The many critical services provided by healthy marine ecosystems include food and habitat protection.

Marine Protected Areas | Help the oceans to mitigate and adapt to climate change by promoting intact and complex ecosystems with high diversity and abundance of species.



MPA can mitigate and promote adaptation to climate change. Source: (Callum et al., 2017)

MPAs helps to protect critical habitat



Marine turtles is one of the most endangered species

Source: (Republic World,2020)

Critical habitat is a habitat that is important for the conservation or regeneration of listed wildlife species and that is defined as the critical habitat of the species in a recovery strategy or action plan for the species. Critical habitat areas can also contain areas that are not currently species-occupied but may be required for their recovery.

Coral reef – Redang Island, Malaysia

Source: (Joe,1970)



Despite their high economic and leisure importance, our coral reefs are severely endangered by environmental damage.

CHALLENGES FOR MARINE PROTECTED AREA

The large MPAs include difficulties in monitoring, enforcement and monitoring large offshore areas, as well as high overall costs.

While cost per unit area may be lower for large MPAs, monitoring and monitoring in such vast areas requires much more expensive technologies because coastal waters are often packed with contending human uses, large-scale MPAs tend to be located far off from the shorelines in the open ocean.

The challenges is taking an ecosystem approved. The Executive Order states that the national system of marine protected area should represent the nation's "diverse marine ecosystem". The challenge is to identify these ecosystems and their diverse components. The ecosystems is a pattern of relationships between all biotic (living) and abiotic (non-living) entities within a defined boundary of space and time. (Hoban and Brooks, 1987).

The majority of MPAs permit human activities. At the same time, marine resource managers often face management decisions with limited scientific information on the resources that will be affected. In overall, less is known about the impact of human activities on the marine environment than on terrestrial ecosystems. Much of lack of knowledge can be attributed to the difficulty and expense of marine research. However, it is often impractical to wait for all the scientific information to be available in the face of scientific uncertainty. They argue that, if the potential impact of the proposed action is uncertain, priority must be given to maintaining the health and productivity of the ecosystem.

Summary

Marine protected areas (MPAs) has been set up to protect vulnerable species and ecosystems, to conserve biodiversity and minimize extinction risk, to re-establish ecosystem integrity, to segregate uses to avoid user conflicts, and to enhance the productivity of fish and marine. Increasingly, they have been adapted to protect wide-ranging marine mammal population.

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Group Members



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"True heroes stand up for what they believe so wait and see"



Ahmad Rusyaidi Bin Masshelim @ Maslim
"Be the savior of the ocean, not their enemy"



Zainurhazwani Binti Mohd Alizannah
"The greatest danger to our planet is the belief that someone else will save it, so let's protect ocean"



Nur Anis Alyaa Binti Zulkifli
"If you think the ocean isn't important, imagine Earth without it. Mars comes to mind. No ocean, no life support system."



Fatin Nuraqilah Binti Ahmad Zairil
"Our seas change, but we still depended on it. Take action for hope to the next generation."



Nurain Aqilah Binti Mohd Salbi
Kill only time, take only pictures, leave only bubbles, keep only memories