Threats to Coastal and Marine Ecosystems

Sedimentation, nutrient pollution from development on land and over fishing (partly by large-scale net fishing) now poses the most severe threat to the marine ecosystems of Thailand, which of over 60% have less than 50% live coral cover. A recent assessment of coral reefs classified over 80% of reefs along the Andaman coast and over 50% of reefs along the Gulf as either in "fair" to "very bad" condition and concluded that these reefs are at risk of continued degradation. An international comparative study also indicated that at least 20% of Thailand's experience "high" or "very high" threat.

Other activities such as conversion of mangrove forests to shrimp farms, associated pollution activities, and improper management of pollution have further contributed to the degradation of coastal habitats and resources.

The degradation of seagrass beds is due to wastewater discharge from coastal industries.

Coral bleaching

Coral bleaching is the most severe threat India by climate change to coral reefs in Thailand. Recently, the severe mass coral bleaching events in 2010 occurred on most reefs in the country. Bleaching of reefs in the Andaman Sea was more severe and extensive than those in the Gulf of Thailand. Bleaching events are uniformly distributed in all areas of Thailand, with the exception of the Andaman Sea and the Gulf of Thailand.

The proportion of bleached reefs increased from 5% in 2010 to 80% in 2011. This proportion is expected to increase in frequency and severity in this century. Coral recovery from major bleaching events, such as the severe coral bleaching event in 1998, was documented in some locations. However, recovery rates are likely to be slower in some locations where bleaching frequency increases.

Endnotes


Credits

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Andaman Sea

Marine Resources

- **Gulf of Thailand** 74.8 km²
- **Andaman Sea** 78.56 km²
- **Total Area** 153 km²
- Only 40.3% of the total area is under protection
- Over 60% have less than 50% live coral cover
- **400 species**

Seagrass
- **Total Area** 149.97 km²
- Only 35% of the total area is under protection
- **12 species**

Mangroves
- **Total Area** 2,501.94 km²
- Only 7% of the total mangrove cover is under protection
- **35 species**

Marine National Parks
- **6** in the Gulf of Thailand
- **15** in Andaman Sea
- **5,812 km²**

Endangered species

- **Dugong**
- Anews of 10 dographing (Dugong dugong) are estimated to live in the Andaman Sea, in scattered groups from Ranong to Saraw Province. Accidental capture of dographing in fishing nets and the degradation of seagrass meadows, which they rely on for food, are the two main threats to dographing.

- **Sea Turtles**
- The Andaman Sea is host to four species of sea turtles: critically endangered leatherback turtles (Dermochelys coriacea), green turtles (Chelonia mydas) which are classified as threatened and olive ridley turtles (Lepidochelys olivacea), which are classified as vulnerable.

- **Dolphins**
- The Gulf of Thailand is home to seven species of dolphins. About 303 sightings have been reported. According to the International Union for Conservation of Nature (IUCN) Red List of Threatened Species, the Indopacific bottlenose dolphin (Tursiops aduncus) which is included in the seven species is classified as vulnerable which means it is considered to be facing a high risk of extinction in the wild.

- **Whales**
- There is one species of whale recorded - Bryde's whale (Balaenoptera edeni). A total of 75 sightings have been reported.

Threats

- **Overfishing**
- Widespread destructive fishing and trawling have had impacts on coral reefs since the early 1960s.

- **Pollution and Sedimentation**
- 60 percent of corals may have bleached in some locations. Unfortunately, the frequency and intensity of bleaching in the future appears to be increasing.

To save Thailand’s oceans from an impending crisis, Greenpeace is supporting priority interventions for the sustainable management of the country’s coastal and marine resources and is proposing the following measures:

1) **Institutional rearrangement.** There is a need to elaborate the adoption of a national marine intermin policy and coordinating mechanisms for Thailand.

2) **Enact Bill on the Management of Coastal Areas.** This draft law formalizes existing practices proven to be effective, including community participation in preparing management plans and designing community-offices from the responsibilities of implementing and enforcing fisheries regulations.

3) **Improve protected area management.** Borders need to be clearly defined and enforcement strengthened. The government must set higher standards for monitoring and management of marine protected areas and increase fines for non-compliance.

4) **Improve the enforcement of coastal and marine-related regulations.** Thailand has a need to improve the enforcement of environmental law as well as improve institutional capacity and increased investments in pollution prevention and control, with private sector participation.

7) **Natural and Manmade Hazard Management Planning.** There is need to prepare national framework strategies for climate change, coastal erosion, natural hazard mitigation and man-made hazards from ships, including oil, hazardous and toxic substances.

8) **Revise coastal land use planning to support integrated coastal management.** Laws and policies pertaining to land use, coastal and marine-management should be reviewed and harmonized such that a consistent and effective system of integrated coastal management is developed.

9) **Promote research and monitoring of marine and coastal resources.** A biodiversity research and monitoring system is needed to support an effective and efficient sustainable management of marine and coastal resources.

10) **Integrate marine biodiversity and ecosystem services into economic and financial planning.** Planning processes should take into account marine and ensure multiple land uses from land to sea.

11) **Budget plans for the medium and long-term financing of marine and coastal resources conservation.** Although the government has promised to allocate funds for marine and coastal resources conservation, it does not have a medium or long-term plan for sustainable financing.

12) **Harmen markets and the private sector to marine and coastal resources conservation and sustainable use.** Effective regulatory and enforcement mechanisms should prevent unsustainable practices from taking place. Authorities should support efforts towards sustainable fishing practices in partnership with coastal fishing communities.