

Reef and fish status and threats along the eastern coast of the Gulf of Thailand (Thailand to Vietnam)

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Knowledge of the status of coral reefs in the east Gulf of Thailand is incomplete, along with trends in fishery take and the influence of water quality on reef productivity. Available evidence suggests declining quality of reefs, unsustainable fisheries and increased anthropogenic impacts on water quality, which cascades through trophic levels resulting in reef degradation. Our surveys across Thailand, Cambodia and Vietnam show that coral reef benthic habitat is diverse, with varying structural complexity and is partly impacted by sediment loads. Freshwater plumes from the Mekong delta travel along the Vietnam coast (South China Sea), around the Ca Mau peninsula and move northwest into the eastern gulf. Field testing of water quality from rivers, streams and population centers indicates high levels of ammonia and contribution to sediment loads resulting in degraded water quality in some areas. Biodiversity survey data, fish catch records and community surveys indicate potential threats to reef fish populations. Current fishing activities are removing the top predators. Local fishers report halving of fish catch in the last five years, although size is perceived to remain unaffected. Marine currents and environments do not recognize political boundaries and present a challenge for the development and implementation of coordinated and effective management measures across the three countries. Future development of a transnational IUCN Man and Biosphere Reserve for the coral reefs in the east Gulf of Thailand may be a solution to the provision of sustainable biodiversity protection and on-going food security.

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