



Sewage in Our Seas: *Unmonitored and Unregulated*

CASE STUDY

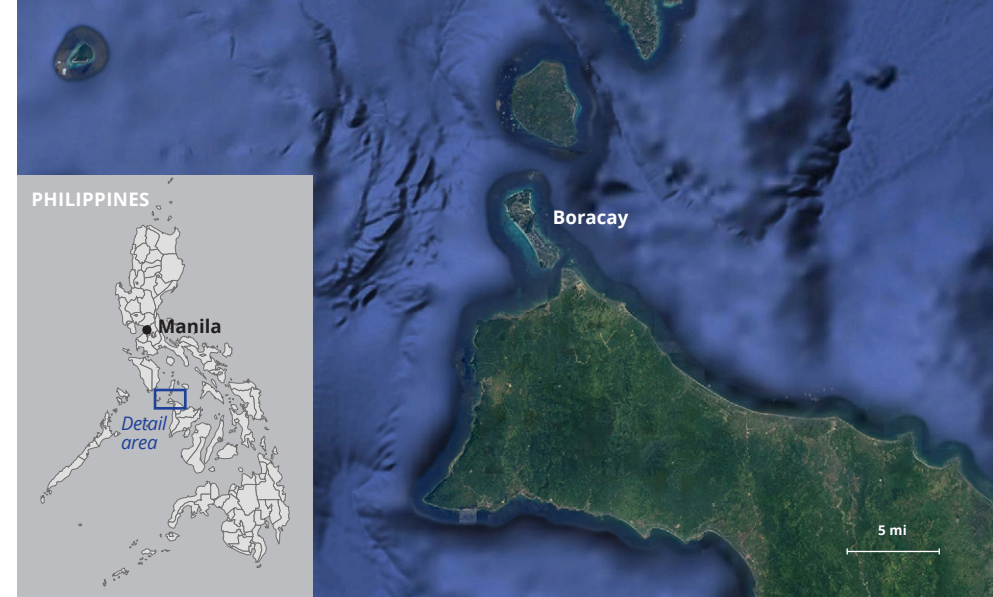
The Philippines

The waters of the Philippines contain about 9 percent of the world’s coral reefs. More than 40 million people in the Philippines live within 30 kilometers of a coral reef and about 1 million fishers depend directly on reef fisheries. As of 2012, nearly 60 percent of the Philippines’ reefs are threatened by coastal development and associated sewage. While the Philippines Clean Water Act sets strong standards for coastal water quality and mandates water quality monitoring, government does little to monitor or enforce these standards. Septic tank-based sewer systems dominate in the Philippines—even in Metro Manila.

COUNTRY OVERVIEW

The Philippines consists of about 7,641 islands divided into 17 regions and several levels of Local Government Units (LGUs). LGUs consist of 80 provinces, 138 component cities, nearly 1,500 municipalities, and more than 42,000 barangays (the smallest political unit). More than 40 million people in the Philippines live within 30 kilometers of a coral reef. About 2 million people depend on fisheries for employment and approximately 1 million fishers depend directly on reef fisheries.

The country’s waters contain about 9 percent of the world’s coral reefs, the third-largest reef area in the world behind Australia and Indonesia. The center of the country within the Verde Island Passage between Mindoro and Luzon and the Visayas region in the south contain the greatest concentration of marine biodiversity.



Many of Boracay’s coral reefs have been irreparably damaged from years of poor water quality and poor tourism practices.

(facing) Aerial view of Boracay development. Source: iStock / Tatiana Nurieva; (above) Satellite map of Boracay. Source: Google Earth; Algal bloom in Boracay. Source: iStock / pashapixel

POLLUTION SOURCES

Based on the World Resources Institute's integrated local threat index,¹ nearly all coral reefs in the Philippines are threatened by local human activities. Sixty percent of the reefs in the Philippines are threatened by watershed-based pollution from agricultural runoff and erosion from deforested slopes. Coastal development and associated sewage threatens nearly 60 percent of the Philippines' reefs.

In addition to discharge of sewage into coastal waters, "reclamation projects" are another source of waste and sediment pollution in the Philippines' coastal waters. Reclamation projects refer to the process of transporting sediment from inland to fill coastal areas and create additional land for development. Reclamation projects are technically illegal without approval through a process that resembles a ballot referendum in U.S. elections. However, Local Government Units (LGUs) in the Philippines receive about 40 percent of their revenues from the national government and allotment is based on land-area, which creates incentives for LGUs to look the other way on illegal reclamation projects or serve as proponents of such projects.

WATER QUALITY MONITORING

The Philippine Clean Water Act of 2004 gives the national agency, the Department of Environment and Natural Resources (specifically, the Environment Management Bureau), responsibility for managing monitoring of water quality levels of both freshwater and ocean water. The actual monitoring falls on LGUs.

The Clean Water Act is quite comprehensive. Among other duties, it requires the Department of Environment and Natural Resources (in partnership with LGUs) to set effluent standards, categorize all point and non-point sources of pollution every two years, and report annually on the water quality of water bodies. However, it is unclear if the Environment Management Bureau and LGUs actually carry out water quality monitoring (and other requirements under the Clean Water Act) because information on water quality is almost never published or otherwise made available to the public.



More than 40 million people in the Philippines live within 30 kilometers of a coral reef.

1. WRI's Local Threat Index includes threats to coral reefs from coastal development, watershed-based pollution, marine-based pollution, and overfishing and destructive fishing. For each local threat, an indicator was developed using data reflecting various "stressors," such as human population density and infrastructure features (including the location and size of cities, ports, and hotels), as well as more complex modeled estimates such as sediment input from rivers. Threat diminishes with distance from each stressor. Thresholds for low, medium, and high threats were developed using available information on observed impacts to coral reefs.

COASTAL WATER QUALITY MANAGEMENT

The Clean Water Act mandates that each LGU construct sewage treatment facilities and specifically requires that Metro Manila and other “highly urbanized cities” (HUCs) construct piped sewage systems to manage domestic sewage collection, treatment, and disposal. In areas not considered HUCs, the Act requires LGUs to construct combined piped sewage and septic tank waste management systems. The Act also creates incentives for industrial water users to invest in industrial wastewater treatment collection and treatment facilities but largely leaves it up to industrial users to self-regulate. The Clean Water Act was passed in 2004, but as of 2019, piped sewage systems remain rare, even in Metro Manila.

However, in the past year the national government in the Philippines has exercised some of its power to protect water quality. In April 2018, Philippines President Rodrigo Duterte announced a six-month closure of Boracay—a popular tourist destination—until the island reformed its wastewater disposal and solid waste management practices. At the time of Boracay’s closing, a survey found that 716 of 834 residential and business properties were dumping untreated sewage water directly into the sea. While the tourism ban has led to improvements in water quality, many of Boracay’s coral reefs have been irreparably damaged from years of poor water quality and poor tourism practices (e.g., damage from ship anchors and divers).

The Philippines Department of Tourism is now scoping out other environmental hotspots such as El Nido (popular for diving) and Siargao (popular for surfing) to see if they would benefit from similar limits on tourism. The Philippines has experimented with tourism bans in the past, but some have questioned the effectiveness of these bans. When Thailand closed Maya Bay (a popular tourism destination) in 2018, tour operators simply moved to new locations, bringing tourists with them. It remains to be seen whether a similar pattern will emerge in the Philippines.

SUGGESTED RESOURCES

Burke, L. and Reytar, K. (2012).

Reefs at Risk Revisited in the Coral Triangle. World Resources Institute.

Goreau, Thomas (2007). *Boracay Environmental Restoration, Water Quality, and Sustainable Energy: Current Situation and Future Prospects*. Global Coral Reef Alliance

Interview with Gloria Ramos, Vice President, Oceana-Philippines

Mahtani, S. and Malig, K. (2018). *Philippines reopened ‘paradise’ after six-month cleanup. So why isn’t everyone happy?*. Washington Post

McKirdy, Euan. (2018). *Philippines closes ‘cesspool’ tourist island of Boracay*. CNN

Republic Act No. 9275: The Philippine Clean Water Act of 2004

Nearly all coral reefs in the Philippines are threatened by local human activities.

Dumaguete, Philippines. Credit: Gregory Piper / Coral Reef Image Bank

