



CAN-015-Coral Bleaching and Pollution-World's Oceans

How do we save coral reefs?

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Mass Bleaching

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Introduction



In 1998, a wave of mass coral bleaching affected reefs around the globe. This dramatic and damaging phenomena caught the attention of scientists and citizens around the world and has resulted in greater awareness and concern about the possible impacts of climate change on coral reef ecosystems. Coral bleaching occurs when corals are stressed by environmental conditions such as unusually high sea temperatures, low salinity, and exposure to toxic chemicals. It is characterized by the loss of microscopic algae called zooxanthellae that live within the tissues of most corals. Zooxanthellae not only provide corals with a food supply, they are also responsible for giving corals their distinctive green and brown coloration. High water temperature is the most common stress that leads to coral bleaching and is the trigger for the large-scale bleaching events seen in 1998. Though some corals can recover from bleaching by regaining their zooxanthellae, others may die (CRC Reef). Reefs are at risk of mass coral bleaching events during the months that normally experience the highest sea temperatures.

School of *Zanclus cornutus* among bleached *Acropora* thickets. Location: Hikkaduwa, Sri Lanka
Photo by: A. Rajasuriya (from ReefBase: <http://www.reefbase.org>)

Industrial Pollution

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Introduction

Discharges of petroleum products, heavy metals, pesticides, fertilizers, and heated wastewater are harmful to marine-life and can be particularly detrimental to coral reef ecosystems. These pollutants are of concern because even their presence in small amounts can kill corals and other reef organisms. Inadequate regulation of discharges by industries and mining activities is often responsible for pollution problems. Pollutants can originate from "point sources" such as discharge pipes above or under the water, or from "non-point sources" of rainwater runoff from roads, agricultural cropland and plantations.

Silted reef close to mine tailing discharge site.
Location: Marinduque, Philippines Photo by: John McManus (from ReefBase: <http://www.reefbase.org>)



http://www.reefbase.org/resource_center/photoviewer.aspx?picid=3688

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