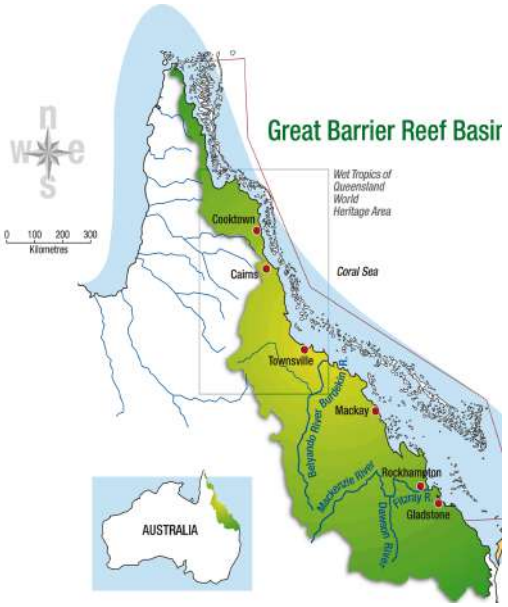
Policy brief
Barrier Reef in Australia by lilballs group



Introduction

Marine ecosystems make up the largest aquatic system in the world covering more than 70% of the planet. The environments that complete the larger structure, from the coasts to the dark sea floor, are called marine ecosystems. In order to maintain a healthy marine environment, aquatic ecosystems rely on each other. The marine ecosystem includes: marshes, tidal zones, estuaries, the mangrove forest, lagoons, seagrass beds, the sea floor, and the coral reefs.

Main causes of Barrier Reef in Australia

☐ Pollution

Marine pollution is a combination of chemicals and trash, most of them comes from land sources, washed or blown into the ocean.This pollution causes damage to the environment, to the health of all organisms, and to economic structures worldwide. Caused By Oil spill, Sea dumping, Agricultural runoff, Sewage, Industrial wastewater and chemicals.

☐ **Overfishing**

Bycatch—the capture of undesirable marine life while fishing for a different species—is directly linked to overfishing. This is also a severe marine issue that results in the unnecessarily death of billions of fish, as well as hundreds of thousands of sea turtles and cetaceans. Overfishing has consequences that extend beyond the maritime ecosystem. Fish is the primary source of protein for billions of people throughout the world, and fishing is the primary source of income for millions of people.

☐ **Collecting live corals for the aquarium market**

Coral reefs are vital resources for local populations all over the globe, providing food, jobs, and lives, as well as providing coastal protection. The trafficking of coral reef species and goods jeopardizes the ability of coral reefs to support local populations and future generations without proper management and enforcement.

☐ **Warming climate**

Bleaching can occur when ocean temperatures rise by 1–2°C over many weeks, rendering corals white. Corals that have been bleached for an extended length of time will eventually perish. Large numbers of corals die as a result of coral bleaching occurrences. For the third year in a row, coral reefs throughout the world have been subjected to widespread bleaching disasters. The Great Barrier Reef in Australia, as well as the Northwestern Hawaiian Islands in the United States, have all seen unprecedented bleaching, with deadly consequences. For example, coral bleaching on the Great Barrier Reef in 2016 and 2017 destroyed around half of the reef's corals.

Effect of Barrier Reef in Australia

The Great Barrier Reef, which stretches over 1,300 miles (2,100 kilometers) through the Coral Sea off the coast of northeastern Australia, is the world's biggest continuous reef system. More than 400 different varieties of coral can be found on the reef, as well as coral sponges, mollusks, rays, dolphins, and a wide variety of tropical fish, birds, and reptiles. Humpback whales breed on the reef, and endangered animals like the dugong (sea cow) and the big green sea turtle call it home.

The Great Barrier Reef is a United Nations World Heritage Site and one of the seven natural wonders of the world. It's also a popular tourist destination, bringing in roughly $6.4 billion in US dollars ($6.9 billion in Australian dollars) per year to the Australian economy.

The Great Barrier Reef is threatened by climate change in two ways. The first is increased water temperatures, which can lead to coral bleaching. The second is ocean acidification, which dissolves the calcium carbonate that forms the coral reef, limiting its ability to develop if it exceeds a certain threshold value.

Corals are sea creatures. Their brilliant hue originates from symbiotic algae that also feed them. Corals can lose their feeding algae when they are stressed by continuous increases in ocean temperature, exposing the coral's white carbonate mineral structure. Because many coral species have evolved to live in a specific temperature range, even minor changes in water temperature can induce coral bleaching. Corals will die if the stress continues.

Global mean sea surface temperatures have risen by about 1° F (0.6° C) since 1950. Over the last 30 years, the intensity and frequency of coral bleaching has increased dramatically, killing or severely damaging one-third of the world's corals. Diseases that affect corals are also on the rise.

Sea temperatures on the Great Barrier Reef have risen by roughly 0.7° F (0.4° C) in the last century. 2,13 Since 1979, there have been eight large coral bleaching outbreaks induced by exceptionally high sea temperatures.

Bleaching was most widespread and severe between 1998 and 2002, damaging up to half of the Great Barrier Reef's reefs. Local incidences of coral disease followed the bleaching in 2002. Over the last decade, illness has increased by 500 percent at certain locations.

Economic impact from Barrier Reef in Australia

- Increased income from tourism and fishing.
- Increased jobs for Australians.
- Mitigation about increasing sea and air temperatures.
- Increasing habitats for many reef species.

Australia Barrier Reef ’s Policy

Australia has the Reef 2050 Plan for coral bleaching and reef recovery and Solving the pollution problem. The Reef 2050 Plan will guide the sustainability and management of the Great Barrier Reef, to continue efforts to protect species such as turtles and dugongs, and deal with key threats like poor water quality and crown-of-thorns starfish.

The Reef 2050 Plan is being developed in partnership with the Queensland Government and Great Barrier Reef Marine Park Authority. It will draw together the outcomes of the Great Barrier Reef comprehensive strategic assessment to provide an overarching framework to guide the protection and management of the reef from 2015 to 2050.

The Australian Government Reef Programme continues to support activities to improve the quality of water entering the Great Barrier Reef by helping agricultural land managers across the reef catchment adopt improved land management practices that will reduce the discharge of nutrients, sediments and pesticides into the reef lagoon.

The programme also supports a wide range of managers and researchers across the Great Barrier Reef catchment, including in urban areas, to address threats to the reef caused by declining water quality and variable climate.

source : Australian government ., 2021

Policy from our group

- From the The biggest threats to the Great Barrier Reef, Climate change is the single biggest threat to the Great Barrier Reef, as it is to many ecosystems around the world. The cumulative impact of climate change, land run-off and other threats is testing the ability of the Reef to recover from major disturbances.

- From our group's opinion the government should publish campaigns about coral bleaching and reef recovery. Management agencies can target land-based interventions (e.g. land use improvements) that will strategically, and cost effectively reduce pollution. While such improvements will improve the resilience of some reefs4, these local interventions need to be coupled with the urgent need to reduce emissions.

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