



Save Philippine Seas
Because our seas save us.



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OCEAN RESEARCH CENTER

Philippine Reeflections

A Primer on Philippine Reefs & Restoration





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State of the Philippine Reefs

A **coral reef** is a large, natural structure built by corals that stretches thousands of miles, covers thousands of square miles, and takes thousands of years to fully form.

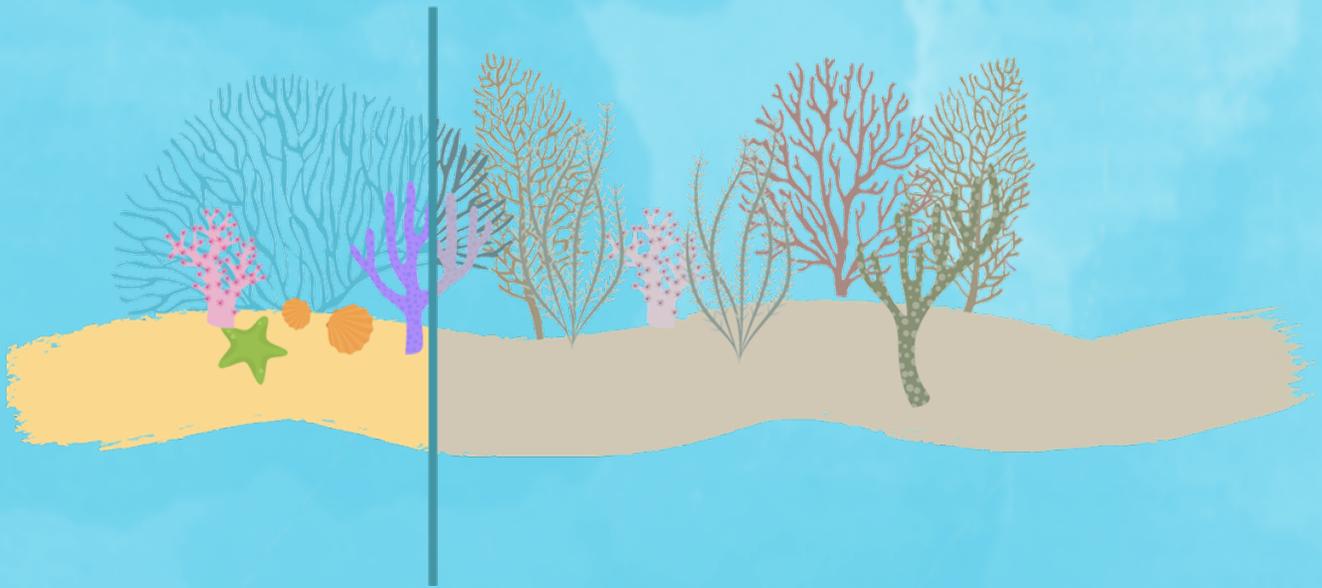


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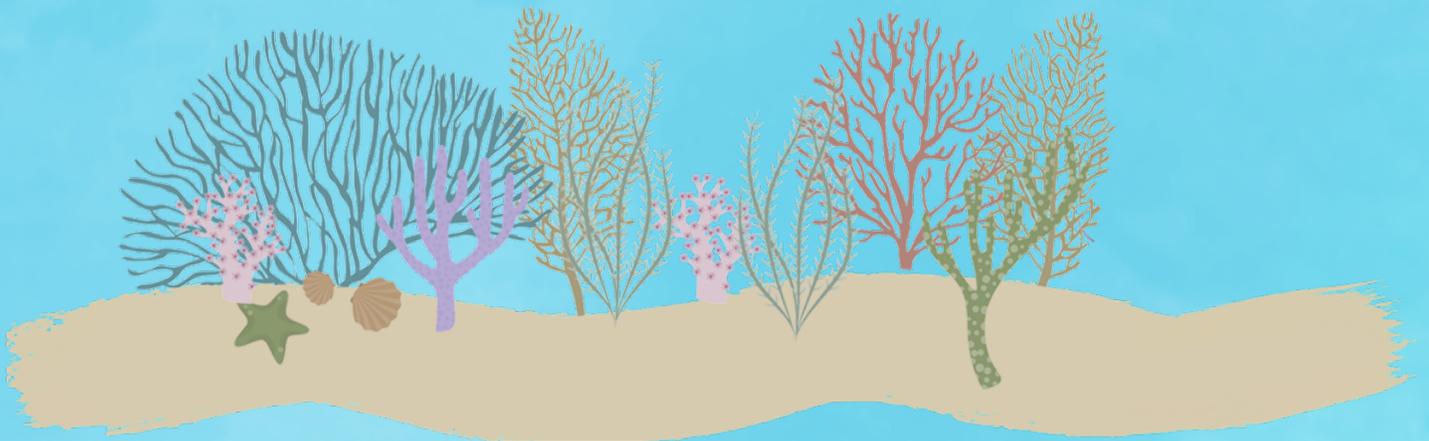
coral species are found in the Sulu Sea bioregion - the richest in the world for corals.



State of the Philippine Reefs



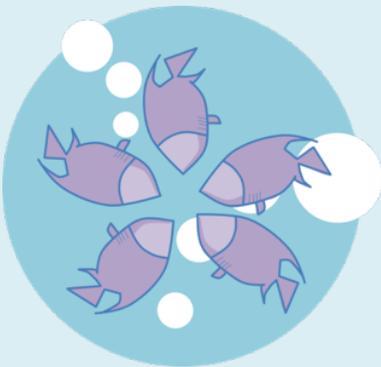
Current average live coral cover: 25.7%



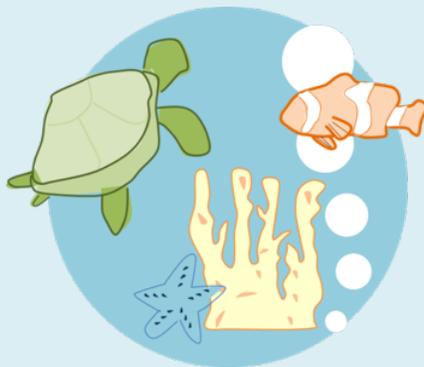
Reefs with “Excellent” live coral cover: Zero

Importance of Coral Reefs

Fisheries support



Habitat for biodiversity



Vital for medical innovations



Protection of coasts



Eco-tourism



Production of white sand



Threats to Coral Reefs

Road building



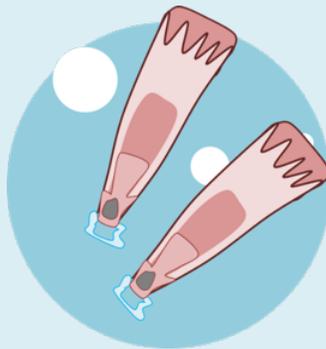
Typhoon damage



Cyanide fishing



Irresponsible tourism



Blast fishing



Unmanaged coastal development



Ocean warming and coral bleaching



Common Ways to Rehabilitate a Reef



Active

Direct intervention is made to aid in recovery, e.g., coral gardening, coral transplantation, bio-rock, microfragmentation, etc.



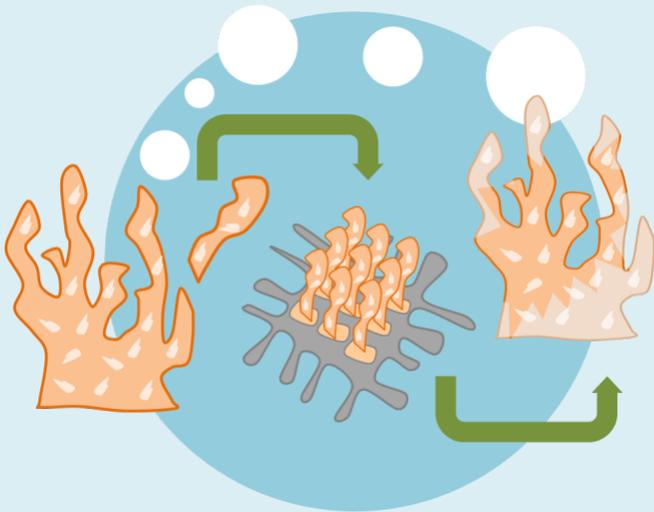
Passive

Minimal to no intervention is undertaken to allow natural recovery of reefs, e.g. coastal or reef management

Common Ways to Rehabilitate a Reef

Active:

Coral Gardening



also known as coral planting, involves transferring coral from a donor reef to damaged one, either directly or after being grown in a nursery.

Some efforts use live fragments naturally broken off and scattered, called Corals of Opportunity (COP).

Passive:

Marine Protected Area

A Marine Protected Area (MPA) is any marine area that has been reserved by any effective means and is governed by specific rules to manage activities and protect the enclosed coastal and marine environment.

Coral Gardening Issues

Coral gardening has become the go-to method in rehabilitating or saving our reefs. However, every seateizen must also be aware of the issues behind this “reef-saving” method.



Too few & too small

- 280,112 COPs of 5cm radius are needed to increase hard coral cover in a hectare of reef from 0% -22%, the current national HCC average.
- A gardener needs to search 6 to 47 hectares of reef to get enough COPS to make a significant change to a hectare of damaged reef.



Not cost-effective

- Cost of expense per COP is USD 0.3 to 0.4 (PHP15 to 20), or a total of PHP4.2 to 5.6 million per hectare.
- Average cost of expenses in administering a single well-managed protected area of around 15 hectares is PHP1.6 million.

Coral Gardening Issues



Corals are animals.

- With our reefs' high diversity, changing the landscape by placing only one or two species may be detrimental to the colonies already existing on the reef.
- Unknowingly, gardeners might cultivate competing corals or might place corals beside a competitor. Worse, they might be unknowingly handling an endangered coral species.



Species choice

- While common to most areas, branching *Acropora* species are sensitive to environmental changes and are prone to mass coral bleaching.
- Transplanted *Acropora* typically have higher mortalities in the initial stages, and have slower growth and lower reproductive rates than coral left intact in their natural habitats.

Coral Gardening Issues



Unrealistic

- The Philippines has an average of 22% hard coral cover, 10% lower than was reported in 1990s.
- Most local reefs may not tolerate further loss of corals from harvesting for gardening.



It can be illegal.

Republic Act 10654, amending the Fisheries Code, states that all coral farming and propagation activities require an Aquatic Wildlife Farm Permit issued by the Department of Agriculture.

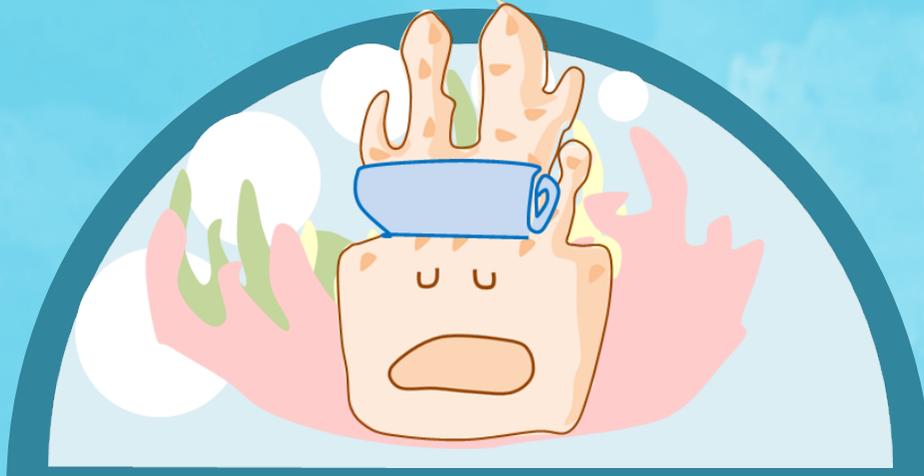


Threats to corals remain

The coral crisis cannot be solved by artificial reefs if human impacts are not controlled and ocean warming continues to intensify.

Coralboration

How we can help corals



Learn to recognize warning signs.

White Spot Disease



White Spot Disease



Snail Infestation



Worm Infestation



Crown of Thorns



Black Band Disease



Bleaching



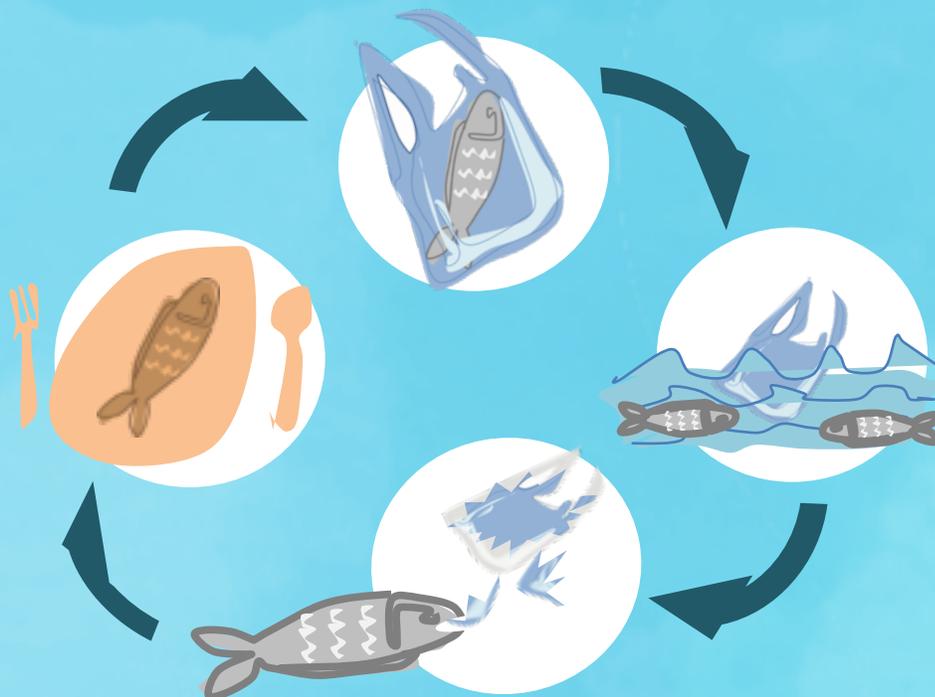
Coralboration

How we can help corals



Manage activities from ridge to reef.

The activities on land, such as construction, coastal development, and lack of waste management, lead to erosion, siltation, and marine pollution, damaging coastal ecosystems.



Coralboration

How we can help corals



Allow reefs to heal themselves.

Natural Recovery Rates

Palawan

6.8%

per year

87 Marine Protected Areas

Occidental Mindoro

3.4%

per year

27 Marine Protected Areas

Coralboration

How we can help corals



Be a good seatizen.



Clean the seas.

Reduce your waste by refusing single-use plastics and buying only what you need.

Pick up wastes in the sea or by the beach, even if it's not yours.

Start your own campaign by downloading any (or all!) of the Save Philippine Seas Waste Watch Toolkits at www.savephilippineseas.org/toolkits.

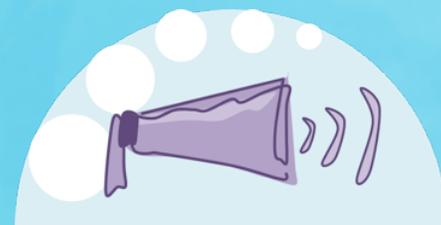


Check the reefs.

Train to become a citizen scientist to further understand our coastal and marine ecosystems.

Train to become an EcoDiver to help monitor and report on reef health through the use of the scientifically robust Reef Check survey method.

Join Reef Check's Adopt-A-Coral program and donate to the cause:
<http://reefcheckphilippines.org/donate>



Speak up!

Help raise awareness about the importance of coral reef ecosystems

Report illegal activities to authorities.

Report coral bleaching to the Philippine Coral Bleaching Watch.



**“Rehabilitation of reefs
is a long-term process,
not a quick fix.”**

*From Reef Restoration & Rehabilitation:
Advisory Paper, October 2010*

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