

# Endangerment of coral reefs



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Endangerment of Coral Reefs Bernardshan (Ben) Mohan 210168680 SC/NATs  
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November 25, 2009 Coral reefs are considered to be the rainforest of the oceans and arguably the most beautiful habitat in the world. Coral reefs are underwater ecosystems where many species such as fish, marine plants, sponges, algae thrive on. As the text, *Living in the Environment* describes it: coral reefs “ are among the world’s oldest, most diverse and most productive ecosystems” (Hackett, 132). Unfortunately, coral reefs are on the endangered list mainly due to human’s involvement in detrimental activities in the past decades. As of now, one-fourth of coral reefs around the globe are lost due to pollution, over-fishing, climate change resulting warmer ocean temperature and coastal development (Hackett, 132). In order to understand why the destruction of coral reefs is a global crisis, it is imperative to outline what are coral reefs and why they are such significant creatures to marine and human lives. Coral reefs are mainly found in warm tropical and subtropical oceans and they are created when large amount of polyps (tiny animals) form a colony. Over time, polyps start to secrete calcium carbonate also known as limestone, which is the building block of the reefs. Zooxantellae, single-celled algae, helps the polyps with food and oxygen and in turn the polyp provides the single-celled algae with a home and nutrients (Hackett, 132). “ Coral reefs are essential spawning, nursery, breeding, and feeding grounds for numerous organisms” (NOAA). They also supply jobs, fishing, and tourism industries for humans around the world (Hackett, 132). As mentioned before, the coral reefs are endangered due to climate change, pollution, and destructive and over-fishing practises. This essay will address and explain each impact on the coral reefs and also

provide some solutions to these crises. First of all, due to human activities, the rate of global warming has increased which ultimately lead to depletion of the earth's ozone and increase in ultraviolet radiation. Because of the climate change, the ocean water temperature has risen and in turn causing ' coral bleaching' and infectious diseases began to transpire more often (NOAA). According to one website that talks about the destruction of coral reefs, " coral bleaching occurs when the polyps, stressed by changes in temperature or UV radiation, expel the zooxanthellae which are necessary for their survival. This not only " bleaches" them but causes them to lose their colour; it often leads to their death" (plaza. ufl. edu/coralreef). Since coral reefs grow leisurely, they are susceptible to damage and may get disrupted easily. Disruption such as an increase of just one degree Celsius can cause coral bleaching (Hackett, 138). This just goes to show how fragile this under water ecosystem can be. In addition, ocean acidification is another cause of coral reefs being damaged. NOAA mentions how the ocean water absorbs carbon dioxide from the atmosphere which makes the ocean to become more acidic (NOAA). When the ocean becomes more acidic, more coral bleaching will be caused and infectious diseases become more frequent. According to NOAA, " climate change and ocean acidification have been identified by many groups as the most important threat to coral reefs on a global basis" (NOAA). While reducing the amount of CO<sub>2</sub> and other green houses gases into the environment is the most prominent solution, it is ultimately in the hands of politicians and people that live in developed countries that need to take actions to reduce the green house gas emissions. More people need to educate themselves about such crises and take simple actions, which can add up to make a greater difference. The second major

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issue regarding the depletion of coral reefs is due to pollution. Our oceans constantly get contaminated because of human activities. Activities such as waste dumping, oil spills, run-off due to increased human population, marine debris and other human by-products cause such pollution to our waters which in turn affect the coral reefs' health (NOAA). When the human population increase beside coastal areas, runoff often increases as well. Runoffs carry vast amounts of dangerous nutrients to the ocean usually from sewage and agricultural areas and not to mention, petroleum and pesticides pollutants (NOAA). These type of pollutants results in poor water conditions which affect the health of the coral reefs. " Excess nutrients result in poor water quality, leading to decreased oxygen and increased nutrients in the water (eutrophication)" (NOAA). Usually when there is an increase in nutrients in the water, the algal growth increases extensively therefore causing the coral reefs to become crowded " which interferes with their ability to feed and reproduce" (NOAA). Pesticides also cause destruction to coral reefs because it does not allow corals to reproduce and grow efficiently (NOAA). In addition, marine debris is another type of pollution which chokes the livelihood of corals. Due to the fact that plethora of man-made objects end up in the ocean, it usually ends up destroying ecosystems underwater. Marine debris consists of materials such as, " plastics (from bags to balloons, hard hats to fishing line), glass, metal, rubber (millions of tires!), and even entire vessels" (NOAA). Abandoned materials such as these cause fishes and other coral species to die because they get entangled and often harm and deteriorate corals (NOAA). " From 2000 to 2006, NOAA and partners removed over 500 tons of marine debris from the North-western Hawaiian Islands" (NOAA). Organizations such these shine a light on many living

species underwater and such organizations need all the help they can get. This is when government from around the globe need to step in, in terms of funding and spreading information about such crises. Strict laws and policies also need to be enforced where coral reefs can be found, to ensure that the safety of the coral reefs will be outweighed. Such laws should limit the amount of waste that in going into the ocean and severe punishments should be handed out if laws are broken. Many people disregard how important coral reefs are, therefore it is beneficial if organizations raise awareness of the crises at hand. Finally, another human activity that severely affects the coral reefs is over-fishing and unsafe fishing practises. It is true that millions and millions of people around the world rely on fishing for an income and a source of protein, but recent studies show that over-fishing has been taking place around the world (The End of the Line). When over-fishing takes place in coral reefs, it devastates their sustainability. This leads to depletion of key species that sustain the coral reefs and allow species that destroy the corals to thrive (NOAA). Not only over-fishing tend to effect coral reefs in a negative way, but also, unsafe fishing practises such as cyanide fishing and explosive fishing have devastating effect on coral reefs. When cyanide fishing is practised, fish get stunned therefore catching fish becomes an easier job for fishermen, but they fail to realize it damages surrounding coral reefs. The main use of cyanide is to catch fish while they are alive and it is an inexpensive way to do it as well ([www. eoearth. org](http://www.eoearth.org)). Even though the cyanide does not affect the structure of coral reefs but it kills the polyps which are essential for the survival of corals ([www. eoearth. org](http://www.eoearth.org)). Many steps have been taken to reduce this type of illegal fishing but it still continues to be done around the world. Furthermore, explosive fishing is another

devastating way of fishing. “ In Southeast Asia, blast fishing is one of the two largest causes of reef degradation" (www. eearth. org). Not only does it kill many species of underwater creatures but it also destroys the structures of coral reefs. As this practise continues, the corals are not able to recover in time (www. eearth. org). Like cyanide fishing, this is also an inexpensive way to fish even when people have lost their limbs due to the explosions. As the Encyclopedia of Earth website explains it, “ these practices often result in the loss of edible reef fish, reduction of species diversity and richness, alteration in the size structure of target species, and cause cascading effects on other reef fish with changes in species composition, biomass and density" (www. eearth. org). In the past decades, coral reefs have been relentlessly damaged mainly because of human activities and ignorance. Scientists have estimated that by the year 2050, more than 70% of the world’s coral reefs are going to be damaged or destroyed (Hackett, 266). With that said, there has been some good news about coral reefs. Evidence show that when areas with damaged coral reefs were given protection, the corals were able to heal and recover (Hackett, 138). In 65 countries, around 300 coral reefs are getting the protection that they deserve and 600 other coral reefs have been recommended for protection (Hackett, 138). This shows that, progress has been made to protect such important habitat and a lot more countries need to get involved to protect what’s left of the coral reefs. As stated before, coral reefs around the world have been plagued with bad luck due to human activities such as, climate change, pollution, and unsafe fishing methods and it up to us now to reduce and prevent any further damage to coral reefs around the world. Coral reefs are vital to many living animals on this planet and as humans, we need to do everything we can to protect it. Work Cited "

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