



Fun Fact Sheet - Cayman's Reefs Over Time: Responses and Actions

1. Coral Reefs are important because they protect our coastlines from storm damage, provide habitat for many commercially important fishes, and are estimated to generate \$375 billion in economic and environmental services worldwide annually (Costanza et al. 1997).
2. Coral Reefs only make up less than 1% of the ocean floor, but are home to 25% of all marine species (Worm et al. 2006).
3. Today's coral reefs are between 5,000 and 10,000yrs old, but ancestors of these reefs formed almost 250 million years ago (Knowlton and Jackson 2008).
4. Coral Reefs are the largest living organism in the world, the largest being the Great Barrier Reef in Australia, which is just over 4,000 kilometres long and can be seen from outer space (Belfield 2002).
5. Corals are an animal, a plant, and a rock all in one (Nothdurft 2009).
6. Coral Reefs act as the world's carbonic sink, trapping carbon. Excessive CO₂ is being emitted into our atmosphere, and as the atmosphere becomes supersaturated excess carbon is forced into our oceans resulting in ocean acidification. However, coral reefs are taking up this excess carbon in their nutrient cycle and helping to clean our oceans (Anthony et al. 2011).
7. It is estimated that over 1 billion people world-wide rely on coral reefs for food, income, and eco-tourism opportunities (WWF 2017).
8. Parrotfishes are a well-known group of herbivores and have a beak-like mouth (which is how they got their name) that they use to scrape algae from the reef structure (Streelman et al. 2002).
9. Herbivorous fishes such as parrotfishes, damselfishes, rabbitfishes, and surgeonfishes help keep macro- and turf-algae populations low so that coral larvae have a better chance to settle and survive on the reef (Monterey Bay Aquarium 2004).
10. Sea urchins, crabs, and some species of sea snails are examples of important herbivores besides fishes which also keep macro-algae densities low (Paine 1995).
11. 95% of nutrients that corals need to survive is obtained from the zooxanthellae living inside the coral polyps, undergoing photosynthesis. The other 5% comes from the coral polyps using their tentacles to reach out and grab food that floats by in the water column (Cheal et al. 2010).
12. Coral Reefs are important to the development of new medicines linked to the treatment of cancer, Alzheimer's, bacterial infections, and other diseases (Reaka-Kudla 1997).
13. It is estimated that we have lost approximately half of the world's coral reefs over the last 30 years, and could potentially lose more than 90% by the year 2050 if we don't take drastic measures (Gates 2016).
14. Coral Reefs are the connecting ecosystem between nursery grounds (such as seagrass beds or mangrove forests) and the open sea. This is where most developing fishes spend a portion to the majority of their lives reaching sexual maturity before some apex predators move to open ocean (NOAA 2015).
15. A keystone species is an organism that other organisms in that ecosystem depend on and in its absence would cause a significant change in that ecosystem. Long-spined sea urchins play a critical role in keeping reefs healthy through herbivory (Precht 2015).