



## Fun Fact Sheet - How do Scientists Grow Coral?

1. Corals are animals living in a symbiotic (e.g. beneficial) relationship with microscopic algae called zooxanthellae that live within the coral's polyps. Corals also build their own internal skeleton out of calcium carbonate similar to our own human skeleton. This makes them an animal, a plant, AND a rock (Jackson 1997)!
2. Growing corals underwater is very similar to growing plants on land. Corals are reared in an ideal habitat area called a coral nursery. Coral nursery methods such as the ones used at the CCMI Nursery are based on terrestrial nursery practices (Lirman et al. 2012).
3. Nursery methods for corals stem from the fact that they are able to reproduce in two ways, both asexually (through fragmentation, which scientists use in coral nurseries) and sexually (through annual massive spawning events) (Schopmeyer et al. 2013)
4. Coral fragmentation occurs when a small piece of coral breaks off of the larger coral colony (called the parent colony). Scientists mimic this natural process by cutting small fragments and re-attaching them to a structure. Coral fragments then grow into larger, healthy, adult colonies of coral. These fragments will all be clones of one another (Young et al. 2012).
5. Once corals grown in an underwater nursery setting are large enough (between the size of a melon and a basketball for staghorn corals) they can be carefully removed from the nursery and outplanted onto the reef (CCMI 2016).
6. Coral outplanting can be a very complicated process and requires a lot of preparation. First scientists must grow the coral, then select corals to outplant and pick an appropriate outplant site. Corals must be safely transferred to the new outplant site and then physically outplanted onto the reef. Once outplanted corals must be monitored to determine how well outplants survive at the new site.
7. CCMI is has two underwater offshore coral nurseries currently growing two species of critically endangered coral, *Acropora cervicornis* (staghorn coral) and *Acropora palmata* (elkhorn coral) (CCMI 2017).
8. Staghorn coral grows an average of 8-10cm per year in the wild, however CCMI scientists have shown that in a nursery setting it can grow an average of 50-70cm per year (CCMI 2017).
9. The Cayman Islands have some of the deepest and healthiest staghorn coral colonies ever recorded, being found as deep as 26 metres (CCMI 2016).
10. Nursery grown outplanted colonies of coral have proven to increase habitat for commercially important fish species, provide millions of dollars a year in eco-tourism, offer multiple opportunities for outreach education, and provide a new research platform for scientists (Johnson et al. 2011)
11. CCMI's first coral nursery constructed in 2012 and was the pilot nursery for all of the Cayman Islands, now there are 12 DoE permits for coral nurseries throughout the country and 6 currently growing corals (DoE 2017).