



Crown-of-Thorns Clean-up Guidelines

1. Crown-of-Thorn sea stars (COTs) are a normal part of healthy Indo-Pacific coral reefs. Do not conduct a clean-up unless your reef is experiencing a persistent **outbreak**.
2. Signs of a persistent outbreak include:
 - **Feeding Scars** - patches of white coral matching the size of nearby COTs. Do not confuse these with bleaching, diseases or other predation.¹
 - **Multiple Sizes** - Many different sizes of COTs, including juveniles (less than 20cm) and adults (more than 20cm).¹
 - **More than 30 COTs** - logged during a normal 45-minute dive.
 - **Aggregations** - COTs forming large groups on a single coral colony.¹
3. Do not conduct a COTs clean-up during the warmer, spawning months of early-mid summer. Handling the animals at this time will force them to **stress spawn**.²
4. Do not cut or break up COTs into multiple pieces because these pieces may **regrow** into fully formed COTs.²
5. Do not bury COTs underwater. They may continue to **stress spawn** until they die.²
6. Be careful not to damage the reef while conducting your clean-up. Coral is an animal that is easily destroyed by touch. Watch your fins and equipment.
7. Only use approved methods of clean-up, such as **in-situ injection** or **removal and burial ashore**.
8. Only collect/inject COTs on top of the reef, clearly visible **during the day**. These will be the individuals forced to forage due to increased competition.

¹ GBRMPA. 2014. Crown-of-thorns starfish control guidelines:

http://www.gbrmpa.gov.au/_data/assets/pdf_file/0006/185298/COTS-control-guidelines.pdf

² Fraser, N., Crawford, B. and Kusen, J. 2000. Best Practices Guide for Crown-of-Thorns Clean-ups: http://www.crc.uri.edu/download/COT_0013.pdf



9. If using the injection method, make sure you are using an environmentally friendly solution, such as vinegar, bile salts or sodium bisulphate.¹
10. Make sure the needle pierces the COTs but does not go through the animal.¹
11. If removing the COTs, bring them ashore as quickly as possible because the longer they are in the water, the more likely they are to **stress spawn**.²
12. If burying the COTs, make sure to bury them above the high tide mark because re-immersion will cause them to stress spawn.²
13. Bury COTs deep enough to avoid harming people/animals digging in the area.²