

COTS Removal Field Form

Location Name:

Site coordinates:

Boat Captain/First Mate:

Vessel:

Divers / Snorkelers (incl. emergency contacts):

Standby surface support:

Equipment Checklist

Removal Gear		Dive Gear		Safety Equipment	
<input type="checkbox"/>	8 x Gloves	<input type="checkbox"/>	Dive Computers	<input type="checkbox"/>	Cell phone + waterproof case
<input type="checkbox"/>	2 x spears (+ 2 spare spears)	<input type="checkbox"/>	BCDs + Regs	<input type="checkbox"/>	Waiver forms
<input type="checkbox"/>	1 x GPS (with coordinates) + waterproof case	<input type="checkbox"/>	Tanks (# of dives + spare)	<input type="checkbox"/>	First Aid Kit (tweezers x2)
<input type="checkbox"/>	Lift Bag	<input type="checkbox"/>	PPE: Wetsuits, gloves, booties	<input type="checkbox"/>	Oxygen Kit
<input type="checkbox"/>	Dry bag	<input type="checkbox"/>	Fins, Masks, Snorkels	<input type="checkbox"/>	2 x Epi-pen
<input type="checkbox"/>	rope for lift bag and dry bag			<input type="checkbox"/>	Hot water flask
<input type="checkbox"/>	weights for lift bag and dry bag			<input type="checkbox"/>	PFDs
<input type="checkbox"/>	Mesh bags			<input type="checkbox"/>	VHF radios
<input type="checkbox"/>	Line and float for collecting COTS			<input type="checkbox"/>	Torpedo Buoy
<input type="checkbox"/>	Cooler – long white (Biosampling)				
<input type="checkbox"/>	Black Gorilla box				
<input type="checkbox"/>	2x U/W Cameras				
<input type="checkbox"/>	Slates + pencil x4				

Protocol

Pre-dive:

1. Go through methodology with all participants and assign roles. Go through communication signals (snorkeler to sign divers if spot COTS areas, divers to sign snorkelers when lift bag is FULL, snorkeler to sign READY to signal ok to release of lift bag, Diver to signal release of lift bag)
2. **IMPORTANT:** Reminder not to destroy the coral when spearing the COTS
3. Synchronize watches, cameras and GPS units to the same exact time
4. Check GPS has correct coordinates for site location.
5. Check all Dive equipment on boat + 1 set of spares
6. Check removal equipment – mesh bags, ropes, spears, lift bags, weights, gloves, camera with batteries,
7. Sign Waiver forms for non-DMWR divers.
8. Check the cooler with water / snacks.

Roles:

Buddy Team A

Diver 1: Spear the COTS and place in the mesh bag. Carry spare mesh bag.

Diver 2: Carry mesh bag, **Record** start and end times of removal efforts.

Buddy Team B

Diver 3: Spear the COTS and place in the mesh bag. Carry spare mesh bag.

Diver 4: Carry mesh bag.

Buddy Team C

Snorkel 1: Carry the GPS device on track mode.

Snorkel 2: Communicate with divers and deck hand for removal of COTS.

In-water:

1. Find site using GPS coordinates
2. Snorkelers scout the area close to the boat to locate areas of high COTS density.
3. Divers (x4) descend together
4. Snorkelers (x2) stay above divers (where possible), with GPS (in w/p case) on 'Track Mode'
5. Divers swim in parallel lines, 5m apart. Be alert if assistance is needed.
6. Recorder to record times for start of survey, start and end of removal sessions, end of survey.
7. Once the mesh bag is full. Tie to Lift bag. Signal to snorkeler. Await responding signal. Fill with air and signal ready for release to snorkelers. Use a spare mesh bag and continue

swimming. Keep checking for the return of the lift bag from the snorkeler and signal when ready. Alert buddy and other divers about descending lift bag.

8. Ascend when you or your buddy's air is at 700psi (50bar). Safety stop for 3 minutes at 15ft.

First Aid for COTS Wounds

Puncture Wound Symptoms

- After the skin puncture, the victim experiences severe and immediate pain, significant bleeding and swelling at the site.
- Symptoms are usually limited, lasting from 30 minutes to 3 hours and then resolving.
- More severe reactions can include numbness, tingling, weakness, nausea, vomiting, joint aches, headaches, cough, and in rare cases paralysis.

Puncture Wound Treatment

- Seek Medical Attention if possible. If not then:
- **Immerse the affected area in water as hot as the person can tolerate for 30 to 90 minutes.** Repeat as necessary to control pain (water temperature should not exceed 140 F or 60 C).
- Some stings may require an injected local anesthetic for pain relief.
- Use **tweezers** to remove any spines in the wound because symptoms may not resolve until all spines have been removed. Occasionally the spines may remain in the wound, and will require a health care professional to remove them. Scrub the wound with soap and water followed by extensive rinsing with fresh water.
- If you cannot remove broken spines, or develop hives, breathing difficulty, numbness or weakness, **go to an emergency room.** These symptoms usually disappear after spines are removed.
- **Do not cover the wound** with tape or any other type of occlusive dressing as it may increase the risk of an infection. A tetanus booster is often recommended for patients with these types of wounds.
- Apply **hydrocortisone cream 2 to 3 times daily** as needed for itching. Discontinue immediately if any signs of infection appear.
- Oral antibiotics are usually recommended to treat an **infection.**