



This compendium is designed to help NQUEC divers get the most out of their participation in Club dive trips. It should be noted that NQUEC is not a diver training organisation, and the compendium is not a substitute for formal dive training. Furthermore, our content is not designed to undermine or contradict any of the safe diving practices taught during diver training courses. Instead, the compendium offers an NQUEC context on these practices by providing Club-specific guidance, tips, and recommendations.

## **Selection of Dive Buddies**

The NQUEC Dive Officer (DO) or an Activity Organiser (AO) will try to buddy divers using the following criteria:

- Divers accustomed to a particular buddy (such as friends or couples) will naturally be encouraged to continue diving together.
- Divers new to the Club will be paired with divers of similar physical ability, fitness level, air consumption, or areas of interest (e.g. photographers or small-critter enthusiasts).
- Novice divers will either be paired with an experienced diver, or added to an existing buddy pair who can provide suitable observation and assistance.

## **Good Buddy Techniques**

With your buddy pair sorted, your next enablers to a safe and enjoyable dive will be good preparation, as well as effective communication with your buddy:

- During your pre-dive checks, don't just make sure your buddy has their equipment; actually take the time to review their gear configuration. This includes discussing arrangements for sharing equipment should the need arise, especially if specialist equipment is being used such as; twin tanks, pony bottles, or BCD regulators. Your review should also cover how these items are routed, i.e. regulator necklaces, extra-long hoses, clips, karabiners, etc.
- Make sure your buddy understands the dive plan, as well as when it might have to be changed during the dive.
- Perform a quick buoyancy check, and make changes as needed rather than trying to make-do with being either too heavy or too light.
- Don't crowd your buddy in the water. When visibility is poor; move closer, but in good visibility; give each other space.
- Take an active role in underwater navigation. Buddy pairs can have a designated leader, but both parties should be tracking their progress throughout the dive.

## **Diving in Poor Visibility**

Where in-water conditions change markedly during a dive, or where diving with reduced visibility just can't be avoided (such as inshore fringing reefs near high population centres); NQUEC recommends the following practices:

- Prior to the dive, try and establish a default position for each diver in the water. For example; "I'll always stay on your left side."
- Also prior to the dive, make sure each diver understands the lost buddy procedure.

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- Try to use at-least some equipment with high-visibility or contrasting colours.
- When diving in a group or at a popular site, identify aspects of your buddy's gear which are unique from other divers.
- Attach a glow-stick to your cylinder valve.

## Page | 2 **Diving at Night**

In our view, the key to a successful night dive can be quite simple; go slow! Even the best underwater torches still give us a compartmentalised perception of our surroundings, and tearing around at night can quickly lead to unnecessary stress. A relaxing night dive is often an enjoyable night dive, especially if the dive has a specific purpose, such as filming lobster wandering into the shallows on a flood tide, or cuttlefish hunting along a reef wall.

Here are some other suggestions to maximise your enjoyment of night diving, which will hopefully entice your buddy away from the comfort of their camp fire or live-aboard cabin next time the opportunity arises to dive down into the cold, wet, darkness:

- Dive plans that seem ambitious or challenging should be reconsidered. Try to develop a simple dive plan around easily recognisable features, like a series of unique bombies or a reef edge, and try to limit your time in open featureless terrain.
- Make sure you are weighted correctly for your intended depth, as you don't need to battle poor buoyancy when you're already task-loaded during a night dive.
- Consider using a small head torch with a short wide beam as a secondary light source to supplement your conventional hand-held torch. The soft ambient light from the head torch can be useful for hand signals as well as for checking instruments.
- Practice your torchlit hand signals with your buddy or group, and be mindful where you direct your torch beam during the dive (i.e. not in your buddy's eyes).
- Use different coloured glow-sticks to distinguish between buddy pairs, i.e. a blue team, a red team, and a green team. This helps all divers quickly recognise their own buddy among all the various torch beams.

## **Diving in Current**

NQUEC rates strong current as one of the biggest risks to diver safety. It has a multiplying effect on problems. Ordinarily easy tasks become difficult, air consumption increases, and your time to react to other problems reduces. The DO and AOs will attempt to plan dives to coincide with slack-water; however, sudden and unexpected changes in current can occur, especially around islands and reefs where structures can channel and concentrate water movement. Here are some simple strategies to help manage strong current:

- If you disassemble parts of your dive gear for drying and storage in between trips, make sure everything is reconnected firmly and check for leaks (especially BCD connections), because if you do surface away from your desired location; then ample floatation will be critical.
- Don't dismiss the old adage of wetting your BCD cylinder band/s before securing your tank; it might seem simple, but it really does work!

- During pre-dive checks; make sure each other's gear is properly secured and restrained. For example; use pockets or lanyards to secure loose items, and gear keepers or clips to restrain alternate air sources and gauge consoles.
- Before you enter the water, take some time to study the surface conditions. Observe the rate of movement of surface objects (i.e. leaf litter or other flotsam), and look for wakes trailing from mooring buoys or navigational markers.
- Try-before-you-dive, by extending a mermaid line and having one diver test the surface conditions. This way your group can make an informed decision to either continue or abort the dive.
- Always aim to start your dive into a prevailing current, thereby lessening your effort on the return leg.
- Consider using a support vessel (if available) to follow your group's progress.
- Carry gloves in-case you have to use your hands to get away from a current flow. Many dive organisations assert that wearing gloves causes divers to be less disciplined about not handling marine life, and therefore discourage divers from wearing them. Whilst NQUEC strongly promotes the natural environment; we also understand that being able to use your hands without risk of injury (stings, cuts, and abrasions) may be vital in a strong current situation.
- If you do find yourself in a strong current, try to present the smallest possible body profile by swimming in a true prone position. By this we mean trimming your body dead-flat with both arms by your sides, and avoiding 'low-legs' (bicycle peddling). Where possible, avoid moving around in mid-water, and use any available terrain to shield yourself from the flow (e.g. the leeward side of a bombie or the depressions in a ship wreck). You may also get some respite from a current flow by swimming only just above the bottom (i.e. hugging the contours).

## **Diving with Cameras**

Most divers who have explored underwater photography have probably experienced small in-water mishaps from a loss of concentration or situational awareness after chasing that 'perfect shot'. This is especially true of dive sites with huge quantities of marine life, such as the wrecks of the *SS Yongala* or the *Lady Bowen*. At these types of sites, even experienced divers can easily forget to monitor their own depth, time, and NDL due in part to the narrowing of awareness which camera operation can produce. Here are some methods to remind yourself to regularly check your instruments:

- Prior to the dive, divide your intended route into 'check points' where the act of reaching each point reminds you to check your instruments. For example, check point one could be the last detached coral bombie, check point two the lagoon entrance, check point three the turn-around point, and so-on. This can also be done with wrecks; once you reach the mid-point of the starboard side, the bow, the mid-point of the port side, and then the stern.
- At the start of the dive; count your breaths and review your gauges at some predetermined number, i.e. every 20 or 30 breaths. You can dispense with the counting once you've found a good gauge-check interval, one which accounts for your depth and your level of physical exertion.

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- Consider using a wrist-worn computer instead of a computer in a gauge console. This will give you very easy access to your depth, time, and NDL without having to fumble around looking for and then pulling a console into view.

On a lighter note, NQUEC acknowledges that sometimes underwater photography can create 'camera monsters'. We simply ask that both camera operating and non-camera operating divers be considerate of each other in the water.

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## Underwater Communication

NQUEC recognises that many diver training organisations teach standardised hand signals. There are however, a couple of areas where the Club has noticed variation between training bodies; therefore, we recommend the following hand signals be used by NQUEC divers:

- Watch or look; one index finger and one middle finger splayed apart with their tips touching your mask lense in front of each eye.
- Questioning tank pressure; two fingers from one hand gently tapping the open palm of the other hand.
- Providing tank pressure; a T-shape formed with both hands equals 100 Bar, and each finger equals 10 Bar.
- Turn-around point; one index finger pointed up and moved in a slow circular motion.
- Anchor; one index finger held outstretched, with the index and middle fingers of the opposite hand splayed apart and hooked over it.
- Boat; both hands held together to form a hull-shaped cup.
- No Deco Limit (NDL); three fingers pointing down with their tips touching the palm of the opposite hand.

### NOTE:

The NDL signal can be used to communicate that you are approaching your own NDL (as a statement), or to request your buddy's NDL (as a question).

- Safety-stop; three fingers pointing up with their tips touching the palm of the opposite hand.
- Abort the dive; both arms crossed over the chest with hands forming fists.
- Pick-up required; extend one arm upwards with the hand forming a fist.

Hand signals should be sent and received using slow deliberate motions, being mindful of the distance between you and your buddy. In poor visibility or when spacing is increased; your signals may need to be exaggerated, and when up close; raise your hands to eye level to account for the loss of peripheral vision. Be patient and repeat your signals if your buddy seems unsure.

## Underwater Navigation

Navigation is a skill well worth investing in because at best; it can increase your enjoyment of diving, and at worst; it can help you avoid dangerous situations.

- Practice shooting and swimming on compass bearings. A hiking/orienteering compass attached to a retractable gear keeper is a simple low-cost compass option.

The keeper can be anchored to a BCD shoulder strap, allowing you to quickly grasp the compass and move it in front of your eye-line whilst swimming. After use, it then retracts back to your chest where it will remain readily accessible.

- Carry a slate and pencil, because when you're not annoying your buddy with endless underwater commentary, you can record useful data such as compass bearings, back-bearings, timings for individual legs, points of interest, marine life, and so on.
- Try to remember the location of recognisable features, and don't be afraid to deploy your own route markers (provided they can be collected on the return leg). For example, glow-sticks or small buoys can be used to mark a point in a dive where a major direction change was made (e.g. the point where you first met the reef edge).
- Be aware that some features look quite different when viewed from another angle. So if you are returning by following your outward leg in reverse, then you may need to carefully confirm each feature before moving on.
- On your return leg; don't be afraid to use the occasional 'spy-hop' to confirm your direction (provided you maintain a slow ascent rate). Spy-hopping is a NQUEC phrase coined from the humpback whale behaviour of breaking the surface momentarily to glean a quick above-water view.

## Individual Safety Equipment

When NQUEC divers participate in chartered trips, naturally they must follow the directions of the commercial operator. When NQUEC divers participate in self-contained Club trips, they should carry the following equipment:

- A signalling device such as a deployable surface marker buoy or a safety sausage.
- A snorkel (either fitted or carried and able to be deployed).
- A cutting device.
- A dive flag (either towed by the group, or flown from the vessel).

## Using Dive Flags

Skippers, tender operators, and surface attendants may use various methods of alerting surface traffic to the presence of divers, but in this section we will focus solely on towable flags. The flag used universally by divers in Australia is the Signal Flag Alpha, and towing one without constantly hooking yourself, your buddy, your vessel, and the bottom of the ocean can seem a simple proposition, yet it takes some thought and practice to do it well:

- Regardless of whether you intend to use an off-the-shelf flag and float or a home-made version, you will benefit from the use of a reel to hold and then pay-out the line. A wreck reel works well, but cheap fishing hand-lines can be just as effective.
- Avoid lines with a cotton core as they tend to sink, leading to more hook-ups.
- Practice towing the flag in the shallows where you can see the line right up to the surface. This will show you how much line to pay-out to get the desired angle.
- During your dive; periodically sight back up the line to get a rough idea of where the float is. This will help you decide which path to take around structures.
- Make your turns at depth earlier and wider than you normally would, in order to give your line and float adequate clearance from structures.

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- Try to position the diver towing the flag at the back of the group to limit hook-ups with other divers.

## Practice Your Skills

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NQUEC encourages Club divers to periodically practice their basic skills where possible during trips. Live-aboard trips often have tight schedules, but you may still find clever ways to incorporate skills practice into your trip. You can even work through skills progressively; starting with a very basic skill, before moving to something more difficult. For example, when at the ascent line completing a safety stop with your buddy, practice removing and replacing your mask. Then at the end of a dive which returns you to a shallow reef top; practice swimming around with your buddy whilst sharing the same air supply.

As mentioned earlier, NQUEC is not a diver training organisation; we simply encourage our divers to seek opportunities to periodically re-visit already-taught skills, so that they may be better prepared to perform these actions during an emergency.

