the search for REEF ANCHORAGES

Having spent months on the Great Barrier Reef, CHRISTINE DANGER shares some practicalities about searching for the elusive reef anchorage and entices us with a few favourite locations.

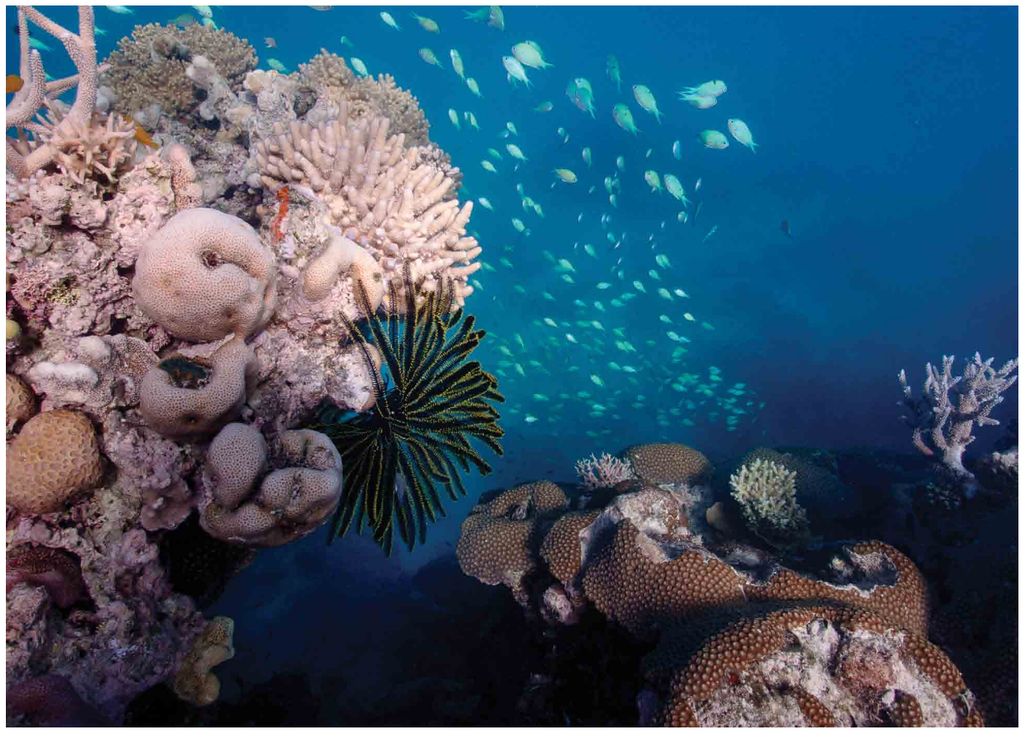
Wanting to go for reef wanders? Good luck finding information about anchorages, depth or nature of the ocean floor! The lack of documentation is the nature of reef explorations, its limitations but also the fun of it. After all, the joy of reef hopping is finding your little bit of paradise in the middle of the ocean away from the crowds, on your own or with the chosen few as your cruising companions. You don't go there to be where everybody else goes.

We might be braver than some, but we are not big risk takers. We do a LOT of research before we head out. We reach out to other yachties to exchange 'must-see' spots. We read blogs from fellow cruisers, we study weather forecasts, we download satellite maps, all to enjoy the elusive perfect days at the reef.

What are the perfect conditions? A sunny day with less than 10kts of breeze, but these bright calm spells are few and far between. In fact, if you wait for these you will not be at the reef very often. You can go in 10-15kts and enjoy yourself; it may be a little giggly at high tide, but very manageable. Beyond 20kts it can get uncomfortable on the big boat, you will get buffeted around and the visibility will be reduced as you snorkel.

And what is a perfect reef anchorage, you ask? Somewhere not too deep – 4-12m, over sand, with at least 60-80m radius of clear anchoring circle, protected by a solid reef wall. Actually, the perfect reef anchorage is in a lagoon, but that is often asking too much! Another important characteristic we look for is a reasonably easy access to the anchorage spot. There is nothing more nerve racking than weaving your way through bommies threatening to assault your hulls.

So how do we find all the pre-requisites? Well apart from keeping a keen eye on weather forecasts using mainly MetEye from the Bureau of Meteorology, we spend hours scouting through satellite images, overlaying these with standard navigation software, looking for the tell-tale signs of sandy bottoms or channels. If we look at an aerial or satellite view of the approach to a reef and see nothing but studded bommies, we don't go there! But if we see an area clear of coral outcrops and we measure a sufficiently broad radius for anchoring, we investigate further.



CRINOIDS or feathered stars are a favourite with their elegant tendrils.

BRILLIANT colour of cup corals.

GORGONIAN fans – the reward for diving deeper.

PLENTY of space for three cats at Stanley Reef.

USEFUL TOOLS

We have a laptop rather than a dedicated chart plotter and use the Time Zero software and C-Maps for navigation. We also have Navionics on a tablet. Until recently we were relying on Google Earth and Navionics to do our planning. We stepped up our research when we discovered a very useful tool called Relief Shading in the latest version of Navionics. Relief shading delivers highly detailed shading that combines colour and shadow to provide an easy-to-interpret, clearer view of the bottom structure than contour lines alone. This turns out to be important when scrutinizing a coastline or a reef edge looking for minute differences in the shades of blue or yellow that might indicate a shallower area or a possible anchorage. Try it, you will be impressed.

Also during this last season, our cruising companions on SV Oceaneer introduced us to OpenCPN and SAS Planet to augment our charts with high resolution satellite imagery from a variety of sources beyond Google Earth. Both are part of the Open Software Foundation and are free. These work on Windows operating software.

The geo-registration of satellite imagery is amazingly accurate, with maximum errors in the order of 3m. It will show you which pen you are in at a marina, or exactly where a bommie is that you have to avoid to reach that perfect anchorage. It won't always show everything, but where it shows something, that is exactly where it is. It is a game changer for planning your reef trips, identifying where you might anchor and bringing your boat safely to your chosen spot.

WHERE IS IT BEST TO SNORKEL?

The next part of the scouting process is finding reefs to dive or snorkel at which are in reasonably good condition.

At a regional level, after months of exploring along the Great Barrier Reef (GBR) we found that the areas of highest richness were the Southern GBR, followed by the central region between Mackay and Townsville; the offshore reefs north of Port Douglas were also very good. In general, the Outer Reefs are not affected by agricultural run off, water clarity is markedly improved as is health of corals and fish population. The inshore areas of lowest richness were the Wet Tropics (north of Hinchinbrook Island to about Port Douglas) and the Broad Sound and Keppel region. The inner line of reefs closest to the coast are typically more turbid, invaded by algae and in poorer condition. Our own layman's experience was confirmed by the Annual Summary Report of Coral Reef Condition 2020/21 produced by the Australian Institute of Marine Science through their long-term monitoring program (https://www.aims.gov.au/reef-monitoring/gbr-condition-summary-2020-2021). This makes for a very informative read.

Another interesting observation to note is that reefs in close proximity can be affected differently by storms, Crown of Thorns Starfish outbreaks, heat stress or bleaching. Ten nautical miles distance between reefs can show very different conditions, for instance offshore of Dunk Island, Beaver Reef is in a far better state than Eddy Reef. But the level of protection

afforded can also have a huge impact; in a green or no take marine national park zone there is a marked improvement in coral health and fish population over a blue, general use zone. So if you want to enjoy a healthier reef, see denser coral cover and a great variety of fish species which are less wary of divers, snorkel or dive in a green zone. Take only photos, leave only bubbles.

At a localized level, in the main the places which are safe to bring the big boat to are not where the best marine life is. The sandy leeward side habitat is the more protected but also where the coral cover is lowest and least healthy and where fish are least numerous. When you look at the colour, cover and shape you will often see old dead coral broken down, looking grey and often covered with turf algae. The flank exposed to the prevailing trade winds and waves is where the water flow and nutrients are plentiful. Coral density and variety are often better, water clarity and fish population improved. To get there you need a robust enough dinghy that gets on the plane, can cope with a bit of current and covers the distance from your boat to your dive site quickly.

PUTTING THE SCOUTING TO GOOD USE

And now, let's check out six reefs in six different areas of the Great Barrier Reef, because after all this is why we are doing all this investigative work. We are taking you to Little Bugatti Reef (offshore of Mackay), Faith Reef (Offshore of Bowen), Stanley Reef (offshore of Cape Upstart), Otter Reef (offshore of Hinchinbrook Island), Scott Reef (offshore of Cairns) and St Crispin Reef (offshore of Cape Tribulation). All were investigated using the method described above, all were new to us in 2021.

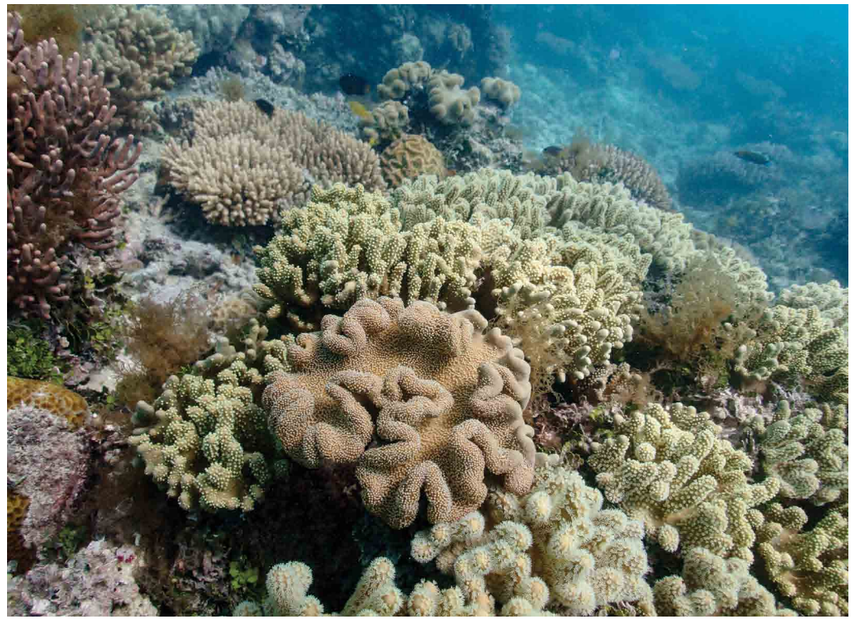
At each of these reefs, we have been able to get aerial shots with our Mavic Air drone as well, another useful tool in our kit bag, but mainly used to get some jaw dropping photographs of our environment and our tiny looking boat in its midst.

LITTLE BUGATTI REEF

One of a series of U-shaped reefs on the outer line of reefs running far offshore of Mackay and the Southern Whitsundays, Little Bugatti provides a protected anchorage from southerlies with a choice of possies to drop the pick in and an extensive area to explore diving or snorkelling both inside the inlet, at its entrance and on the outside. We were anchored in 6-8m of water over a patchy sand and limestone bottom. Being a long way from the mainland, about 90nm from Mackay, the reefs were not affected by coastal runoff, were out of reach from coastal cruising traffic and it showed. The coral variety, colour, density, the clarity of the water, the quantity of fish of all sizes were just about the best we had seen anywhere on the Great Barrier Reef.

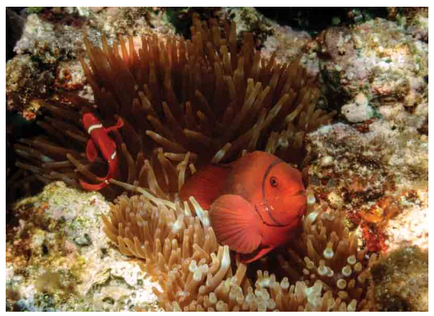
FAITH REEF

A gorgeous anchorage in a small inlet with just enough room for one catamaran in the shallows, this small reef offshore of Bowen was quite a sight at low tide with its quintessential graduation of aquas and blues and amber coral pinnacles dotted around. The inlet is open to the west and southwest, but offers protection from the southeast trades and from the northeast, which is when we were there. Although the coral inside the inlet has been smashed by storms and there is evidence of recent crown of thorn starfish bleaching with a



CORAL GARDEN at Scott Reef showing the resilience of the reef.

CRINOIDS at Stanley Reef with their feather-like arms.



SPINE-CHEEK CLOWNFISH – hard to miss with all that colour and bravado!

TERRITORIAL ANEMONEFISH are always a fun sight.

MOORISH IDOLS and Surgeonfish are typical reef dwellers.

OUR HAPPY place – a sandy shallow anchorage with a tiny little cay.

few culprits still around, as is often the case the outside is in better condition and there is an abundance of big fish. Being in a blue general use zone, you can fish there.

STANLEY REEF

30nm offshore of Cape Upstart, this reef is not often frequented by yachties, although visited by a commercial diving charter (not that we saw it). Most cruisers have their eye on getting to Magnetic Island from Cape Upstart, rather than reef hopping. This reef has an oval shape with inky depths on the western side of an even deeper central channel running along a semi continuous wall with a maze of gutters on the eastern side. The channel gives access to a shallower sandy area near the southern wall where we anchored in light southerly conditions. We snorkelled around the bommies close to the boat, which were acceptable, but found the best snorkelling and diving happened near the entrance, in the labyrinth at the top end and along the drop off on the edge of the channel near the entrance.

OTTER REEF

An easy reef to reach offshore of Hinchinbrook, Otter is made up of what can best be described as patches of reefs in a dotted line about 12nm long. There is not a well-defined reef wall. We targetted one of the patches with a large expanse of sand near a tiny cay for stress free anchoring in light southerlies and dropped the pick over clear sand in 8m of water. The cay is more akin to a sand bank and only gets uncovered at low tide. Although the reef is showing storm damage, Otter was interesting to snorkel at with a varied mix of soft and hard corals, a network of gutters where fish patrolled and plenty of marine critters to look at. We could see signs of both cyclone effects and recovery with upturned corals and algae, but also new growth in between the dead corals.

SCOTT REEF

Now we are not talking about the Western Australian Scott Reef, but the one located offshore of Cairns and Fitzroy Island, about 10nm south of Sudbury Reef. Scott Reef is a roundish reef with a couple of inlets. There is a nice sandy area at the northern end to anchor the big boat in light southeasterlies,

then it is time to explore by dinghy and jump in for a snorkel. What you will find is a lovely, recovering reef with coral gardens of both hard and soft species as well as a variety of fish. Once again it demonstrates how important green conservation zones are for allowing damaged reefs to heal.

ST CRISPIN REEF

Well protected in easterly and southeasterly conditions, St Crispin is on the outer edge of the Barrier Reef. Beyond the barrier, there is nothing between you and the Solomon Islands. The 1000m mark is not far, as just a few miles to sea you are on the edge of the continental shelf. The leeside of the reef is edged with large and deep sandy patches. Although it is a little bit of a maze to get into, once in, you anchor in shallow water clear of bommies. We found the best snorkelling was up gutters at the northern end of the reef as well as around isolated bommies. You are greeted with large schools of surgeonfish and fusiliers. Near the large bommies fore and aft mooring buoys if vacant can be a good spot to tie the dinghy and dive down and around the coral heads. With good water flow and nutrients, coral density is good. Hard and soft corals are in good condition, although damage is evident, but new growth after heat stress is strong and fish life abundant.

The outer beauty of the Great Barrier Reef will capture your eyes, the inner beauty will capture your heart. We enjoy the unpredictability of sailing and cruising in its midst. We love photographing underwater: fish, corals, patterns and colours will appear. And we now also enjoy the magic of aerial photography. We like that we don't control what is going on in any of it. It becomes an endless discovery, fleeting moments… like a spell, you forget everything, except for what appears in front of you.

We hope the information we have shared in this article and the photographs we selected will awaken your sense of possibility and wonder. Let's also hope that our precious reef can recover from the latest 2022 bleaching event, the fourth in six years.See you out there!

DREAMY REEF anchorage; sandy, enough room for three cats!

OFF IN THE DINGHY for a snorkel along the outside wall!

BIG, COLOURFUL Steephead Parrotfish.

SOFT CORAL, the first sign of recovery.

Chris and her partner Wade Bishop have been sailing on catamarans of various sizes for over 20 years, cruising Bass Strait, Tasmanian waters and Australia's east coast. In July 2017, they finally retired, and are now sea wanderers, living on board their catamaran *Anui*, a 52ft Crowther. Follow their adventures on **www.sv-anui.com**