

## **SAILING AND DIVING THE MANY MOTU**

### **A long-awaited return to the Tuamotu Archipelago**

#### **Ellen Massey Leonard**

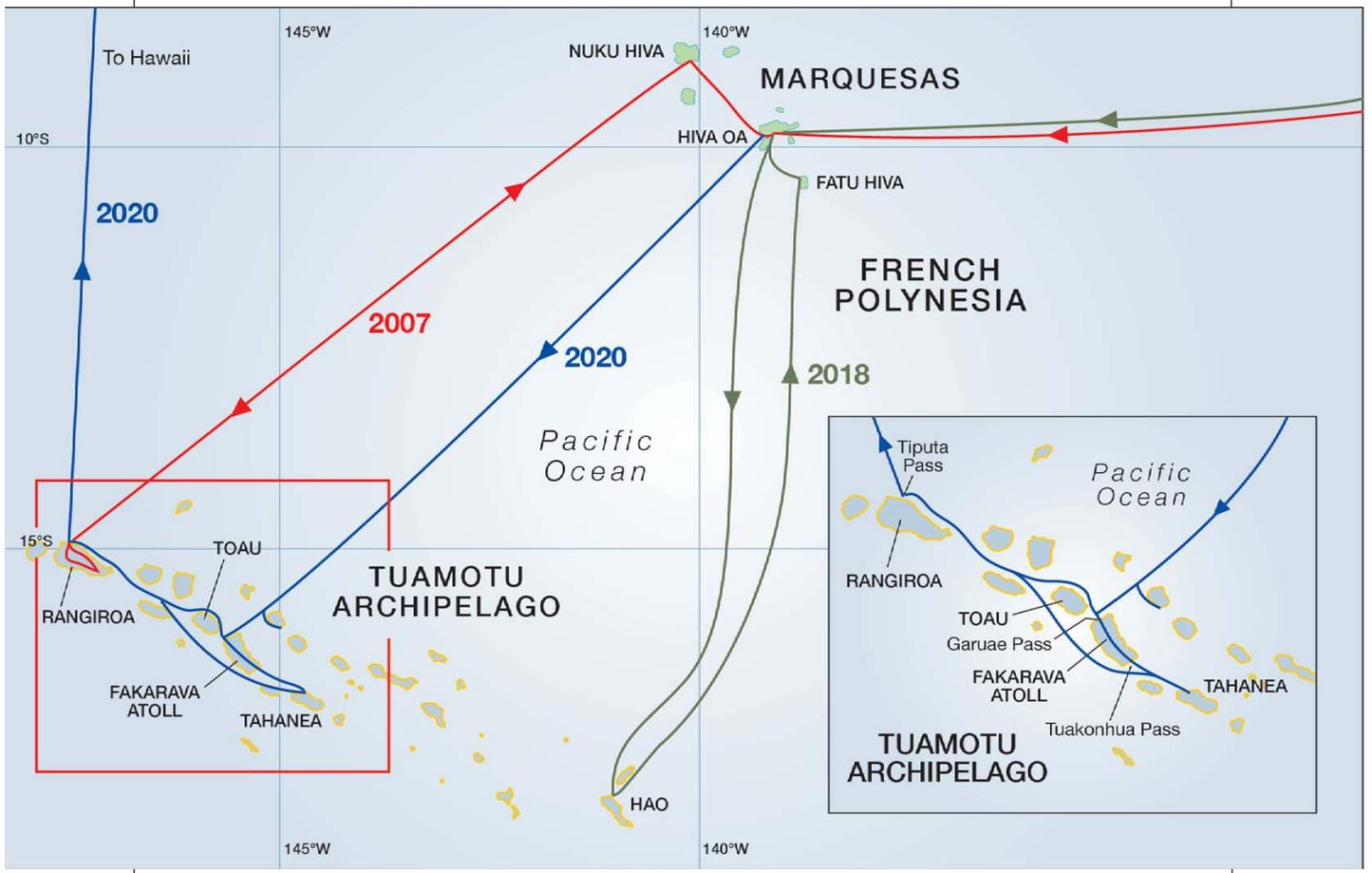
*(Ellen and Seth Leonard have sailed nearly 60,000 miles together, including a circumnavigation in their early 20s, a voyage to the Alaskan Arctic and a second Pacific crossing. In November 2020, after three seasons in French Polynesia, they made a 20-day passage from the Tuamotu Archipelago to their home in Hawaii and have since been working on Celeste's maintenance, with one cruise among the Hawaiian Islands.*

*Celeste is a 40ft LOA, 28ft LWL cold-moulded wooden cutter designed by Francis Kinney (editor of Skene's Elements of Yacht Design) and built by Bent Jespersen in British Columbia in 1985. Photographs by Seth Leonard and Ellen Massey Leonard.)*

Ever since we first sailed to the Tuamotu Archipelago 15 years ago, Seth and I wanted to dive the famous South Pass of Fakarava Atoll. At that time we were still fairly new to ocean sailing and certainly to scuba diving. We were part-way along our first bluewater journey, our voyage around the world, and we were both in our early 20s. Seth and I had sailed *Heretic*, our fairly basic 38ft sloop copy of the Sparkman & Stephens's yawl *Finisterre*, from Maine through the Panama Canal and across the Pacific to French Polynesia. Before the voyage we had both been small boat sailors and racers, but those 10,000 miles were our first offshore ones. As for scuba diving, we were complete novices – we had only breathed underwater for the first time while en route to Panama. In the Galapagos we had earned our advanced dive certifications, and in the Marquesas we had made our first dives from *Heretic* without a guide. We



*Heretic in  
Rangiroa,  
2007*



were keen on our new sport, but little did we know that when we reached the Tuamotu atolls we would be hooked for life.

*Tuamotu* means ‘many *motu*’ in the local language, a *motu* being a coral islet (*motu* is both plural and singular). It’s a perfect name for this great arc of coral atolls stretching across more than a thousand miles of ocean in the South Pacific. An atoll is essentially a coral reef enclosing a lagoon, often with *motu* atop the reef. The Tuamotu islands – part of French Polynesia – lie right in the path of any sailor en route from Panama to Tahiti. Prior to the advent of GPS and really accurate charts they had long been known to voyagers as the Dangerous Archipelago because of the hazards posed by the reefs. Today much of that risk is gone and sailing there is no longer the sort of adventure where a misstep can bring grave mishap. While that’s very pleasant of course, sometimes it’s good to have a challenge. Enter diving.

Diving in the Tuamotu is all about sharks and fast currents. If you wish, it can also be about depth and decompression. Most of the diving takes place in the passes that lead into the atolls, and on an outgoing tide these passes are dangerous for sailors and divers alike. The ebb pours out of some of the lagoons at speeds exceeding 8 knots, generating steep standing waves as it sets against the wind. Beneath the waves the outflow creates a ferocious down-current, potentially lethal to any diver caught in it. All drift dives\* are consequently done on flood tides, going into the lagoon. Sailors navigate these passes at slack water or at the beginning of the flood, when the surface is calm and the current negligible.

The largest atoll of the archipelago, Rangiroa, has one of the strongest currents. When Seth and I sailed there 15 years ago we managed to time our arrival for slack tide, though given that we were arriving at the end of a six-day passage from the Marquesas about

\* A drift dive uses the current, entering the water at one point, drifting with the current and exiting the water at another point. They are more advanced than normal dives where entry and exit are in the same place (often an anchored or moored boat), and most dive operators require divers to have advanced certification to do them. Most drift dives are done with a boat following the divers to pick them up.



*Bottlenose dolphins  
at Rangiroa’s Tiputa Pass*

**Reef sharks in  
the shallows at  
Rangiroa lagoon**

600 miles to the northeast, our favourable timing was mostly luck – but we took it and wafted through the placid pass under genoa alone. Then we



rounded the corner into the anchorage, tacked up into shallower water, luffed up and dropped the hook. We were true sailing purists – and also impoverished 20-year-olds – and we never used our engine if we could help it. A few hours later, while taking a walk ashore, we saw what Tiputa Pass becomes on the ebb with dolphins leaping from the steep white water – it was quite a sight, not something we would want to be caught in.

The following day, on the flood tide, we slipped underwater to witness Rangiroa's phenomenal diving. We began by backrolling<sup>1</sup> into the open ocean, right into a school of barracuda, and then descending to a school of grey reef sharks. Still a novice diver at that time, I remember marvelling at the otherworldly sensation of floating weightless in a water column that felt as clear as air, surrounded by the predators whose home this was. Then we let the current take us into the pass, flying along faster and faster. It was exhilarating, to the point where I actually ran out of air and had to breath from the dive guide's extra regulator<sup>2</sup>. Towards the end a huge manta ray was turning somersaults right in our path. Even now, with many dives under my weight-belt, this is still my most memorable – partly because it *was* memorable and partly because it was the first really challenging dive I'd done. In the same way, our first crossing of the Pacific remains my most memorable passage.

When Rangiroa's fringe of palms dipped below the horizon in *Heretic's* wake about ten days later, we vowed that someday we'd come back. Through a series of very lucky circumstances we managed to do so, after nearly a dozen years. By then we'd sold *Heretic*

1. Backrolling is when you sit on the gunwale of a small dive boat or dinghy, usually an inflatable, in your full dive kit and literally roll backwards into the water.
2. A regulator allows you to breathe compressed air by controlling the pressure both at the tank end and at the mouthpiece. Divers normally carry two on their tanks – your own, plus a second one which can be used by your buddy diver should he/she run out of air.

Of course, all divers should have air gauges, pay attention to how much air they are using and plan their dives accordingly. But sometimes problems occur and the extra regulator – called an 'octopus' – on someone else's tank is a safety measure that allows the out-of-air diver to get to the surface safely.



*Ebb tide at Hao Atoll, 2018*

and had replaced her with another timber classic, *Celeste*.

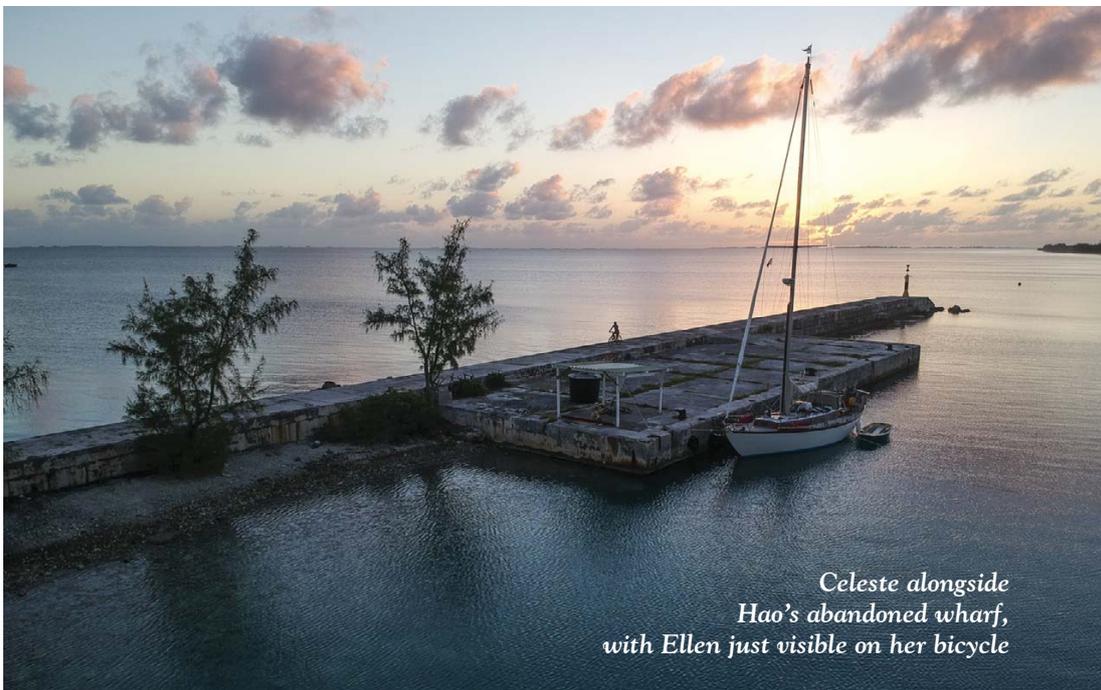
In 2018 we again made the long passage across the Pacific to French Polynesia, this time from Mexico. After a week or so in the Marquesas we set off for the southern end of the Tuamotu chain, an atoll called Hao. The first time we'd sailed to Tuamotu, from the Marquesas, we'd enjoyed a pleasant and even-keeled – if slow – six-day amble downwind. This time would be different. Our angle to the trade winds was a close reach and the breeze was strong. Instead of swaying before the wind wing-and-wing we punched into head seas for 4½ days under triple-reefed main, jib, and staysail. In our 30s instead of our 20s, we were now too conscientious to rely solely on luck for



*Seth sailing Celeste in the sheltered waters of the lagoon*

either our weather forecasting or timing our tides. And so, of course, we got worse weather – strong headwinds – and we got the tides all wrong. (In fact our tide tables were wrong.) So we had to wait outside the atoll, tacking back and forth just offshore, for five hours before the current moderated enough for us to sail into the lagoon.

Sailing inside a lagoon is a treat for ocean sailors. The water is flat calm but the wind blows strong and consistent over the tops of the palms. It's like a lake or a sheltered bay, but better because there's almost nothing to block or shift the wind and because many of these lagoons are immense. You can fly along for hours without any pitching or rolling, your boat showing off her best performance. Once inside Hao's lagoon, it was quick – and extremely pleasant – work to skim across the water to the anchorage.



*Celeste alongside  
Hao's abandoned wharf,  
with Ellen just visible on her bicycle*

The anchorage was in fact a crumbling wharf, convenient and very sheltered. Hao is a sleepy place without any tourist infrastructure – the atoll is the site of the former French military base from which the nuclear tests, undertaken between 1966 and 1996, were launched. Until fairly recently no one was allowed to visit the place. Seth and I were curious to see it, in part because of its history. Ashore, there is still evidence of the military presence, particularly in the enormous runway completely out of proportion to the tiny amount of local air traffic that now uses it. Underwater, we were saddened to see the state of the lagoon – murky, much of the coral dead, and with significant sunken debris, seemingly thrown there at random. The lagoon was fortunately not what Jacques Cousteau called the 'universal sewer' but it did seem to have been the trash heap. Nevertheless there were a surprising number of reef fish and eels despite the debris and algae-covered coral.



*Over and under ...  
Celeste lies at anchor in  
the southern Tuamotus in 2018  
while Ellen free-dives in the foreground*



*A ball of paddletail and  
one-spot snapper at  
Tumahokua Pass,  
Fakarava*

In a place like this there are no scuba operators. Seth and I are not strangers to diving on our own from *Celeste*, but in the Tuamotu the best diving is outside the lagoons, and that makes it tricky. Anchoring on coral harms the coral and would offer terrible holding even if it wasn't ecologically irresponsible. Free-diving down to secure a dinghy is easier and better, of course, but the ideal solution is for someone to operate the yacht or dinghy while the divers are underwater. If you are only two on board, however, as we are, and you both wish to dive (one shouldn't dive alone anyway), this isn't feasible.

So Seth and I were thrilled to be invited to join the Fafapiti Diving Club, a group of French teachers at the local school who had come together to buy a boat and an air compressor. These French divers were all very skilled and rather risk-loving, preferring to make

quite deep dives on the coral walls outside the lagoon entrance. Indeed that is where most of the big critters were – reef sharks cruising above seemingly infinite schools of red bigeyes, manta rays turning lazy circles just below us and occasionally above us at 140 feet, schools of rainbow runners, sometimes a big tuna or amberjack and once or twice a 16ft tiger shark.

After two months between Hao and an even more remote neighbouring atoll it was time to sail back to the Marquesas, where we planned to leave *Celeste* for the cyclone season after our visas ran out. We rode the back of a low pressure system east for two days – easy reaching under genoa and single-reefed main, beneath overcast skies – but we were slower than the system and soon we were back to clear skies and trade winds well forward of the beam. We had a splendid reward for our upwind sailing, however, when we dropped anchor in the moonlight all alone among the spires of the famous Baie des Vierges on Fatu Hiva. The following year we spent entirely in the Marquesas, but in 2020 we returned once again to the Tuamotu. This time our main destination was the place we had long dreamed of diving – Fakarava Atoll.

Fakarava lies in the middle of the Tuamotu arc and is one of the largest of the group – its coral *motu* encompass a lagoon with a surface area of over 1000km<sup>2</sup> (nearly 400m<sup>2</sup>). Two passes lead into the lagoon from the ocean, the mile-wide Garuae Pass in the north and the narrow, coral-lined alleyway of Tumakohua Pass in the south. It is this pass in particular that has made the atoll renowned among divers and that has led to Fakarava's status as a UNESCO biosphere reserve. The coral reefs there are brilliantly alive, hosting thousands of reef fish from little dartfish hiding in the coral to behemoth Napoleon wrasse which can tip the scales at 400 pounds. Thanks to the health of the marine ecosystem, the reefs are also home to hundreds of sharks, including one of the biggest aggregations of grey reef sharks in the world.

#### *Tumahokua Pass Beach, Fakarava*





*Fast passage to  
windward, 2020*

While we had expected our passages to and from Hao to be more or less upwind, we hoped on this trip to repeat the easy downwind passage we had enjoyed 14 years previously. Instead, *Celeste* took us for a fast gallop to windward. With the wind well in the south – thus forward of the beam –and the swell height reaching 12ft, it was a wet and bouncy ride. Under only jib and staysail, we had the lee rail buried nearly the entire time and were shipping so much water over the bow that we couldn't open the centre hatch for air. As we plotted our noon position each day, however, we found we were consistently making our fastest runs ever with 180 miles made good each day – once even a little more – and that in a boat only 28ft on the waterline. We covered the 550 nautical miles and raised the atoll in just three days.

On arrival we decided first to dive Garuae Pass, which turned out to be one of the most adrenaline-pumping dives I've ever done. Soon we were addicted to it and went back again and again. We would backroll into the open ocean just outside the pass during



the height of the flooding current and make a rapid descent to the coral shelf at 120ft in order to keep from being swept

*Orange-fin  
anemonefish,  
Garuae Pass*

*Seth and Ellen at  
Fakarava in 2020*

into the lagoon before we'd seen anything. Down at depths close to decompression limits we would hook onto outcroppings of dead coral and stare out into the blue at the parade of reef sharks. The current flowing over us was occasionally so strong that it threatened to



tear my regulator out of my mouth. After about ten minutes of shark lookout – already almost enough time to require decompression – the guide would signal to let go and we would lift off into the current. The first time the speeding water grabbed us I estimated the current to be between 4 and 5 knots. I'd made decompression dives before, and wreck dives well inside submerged ships, but this was a thrilling dive, exactly the sort of challenge I'd hoped for.

Tumakohua – South Pass – was beckoning, however. To get there, Seth and I sailed *Celeste* the full length of Fakarava's lagoon, nearly 40 miles along the coral *motu* lining the windward side. The protected waters once again made for superb sailing. We were close-hauled on the way south against about 15 knots of wind, but it was a far cry from upwind ocean sailing. Instead of pitching against head-seas and shipping green waves over the



*Ellen watches a  
grey reef shark over  
aball of goatfish at  
Garuae Pass,  
Fakarava*



***Perfect sailing  
inside Fakarava  
lagoon, 2020***

bow, *Celeste* heeled cleanly and flew along through the flat water. When we're offshore, *Celeste's* tiller is usually hooked up to her wind vane, but inside these lagoons we instead attached the tiller extension and stood out on the windward deck, steering her like she was a dinghy. It was great fun.

The anchorage off the South Pass is unprotected – it's open to quite a lot of fetch across the wide lagoon – so is only comfortable when there is little wind. This meant we were unable to dive the South Pass as much as we would have liked, as every time the wind got up we

had to retreat 7 miles upwind to a perfectly-protected bay tucked into the southeast corner of the lagoon. But when we could anchor near the dive site, it was spectacular.

I have never seen such pristine coral as where we began the dive at the drop-off at 90 feet down. Plate after plate of it staircased into the abyss. On our first dive we were visited by five of the most enormous eagle rays I've ever seen, but every time the sharks were the stars of the show. There were literally hundreds of them swimming slowly past in phalanxes. In the mix were a species one doesn't often see – blacktips – not blacktip reef sharks but the open water species which are faster and more energetic. Just as in the North Pass, we drifted into the lagoon with the current, skimming over beautiful coral and colourful fish until we ascended beside a ball of snapper, scales shimmering in the sunlight. Tumakohua Pass has an exalted reputation and yet still we were bowled over by the beauty and health of its ecosystem. This was a place of which we would never tire.

Sailors like to sail, however, so after as many more dives as we could we set off for the less-visited atoll of Toau, making the trip in just a couple of day sails. First we had a perfect downwind trip back north over Fakarava's smooth lagoon and then, after a night's sleep, we exited the lagoon at slack tide and swayed downwind over the swell. We anchored in several different spots on Toau over the next week or so, doing a few dives from our dinghy, snorkelling, walking the beaches, and getting to know the few local residents. Then we returned to Rangiroa.

The overnight sail to this largest atoll, the site of so many of our best memories from our circumnavigation, was the sort to make any ocean sailor forget all the gales and upwind slogs he or she has ever made. I had one of those night watches you don't want to end, ghosting downwind with 12 knots on the quarter, a clear sky glittering with stars and phosphorescence shining in the wake. Perfect.

From a distance Rangiroa looked the same as it had on our first visit in 2007, but once we had dropped anchor we realised that it now supports both a much larger local population and more tourists. Even in the middle of the pandemic – this was October 2020 – there seemed to be more tourists than there had been 15 years earlier. There were correspondingly more dive and snorkel boats, but happily it didn't seem to have affected the marine life – our dives were almost as good as that first one we had done when we'd been such novices aboard *Heretic*. While we didn't see any manta rays this time, instead we were approached by an inquisitive great hammerhead. To be investigated by this iconic and critically endangered shark, while floating 50ft down and a quarter of a mile out to sea in the disorienting world of the bottomless blue ocean, was an unforgettable experience.

On our previous visit we had circumnavigated Rangiroa's lagoon, revelling in the flat water and brisk winds, one of us always on bow lookout for coral bommies\* (most

\* A coral outcrop or single coral head which stands higher than the surrounding reef.





*Celeste at anchor in the  
Tuamotu Archipelago, 2020*

of the lagoons in the Tuamotu remain uncharted once you get away from the pass and village). We had taken about a week over it – the lagoon covers nearly 1500 sq km – and we'd stopped at a number of lovely *motu*, the two of us all alone with the coconut trees and the reef fish. That little cruise had been perhaps the biggest highlight of our entire trip around the world. We knew we wouldn't be able to replicate it – most of life's best memories cannot be – and so instead we focused on diving the pass and the outer reefs. We did a couple of sunset dives, during one of which we saw big schools of tangs and surgeonfish spawning in little dances in the water column. But before we left the atoll – and French Polynesia – we did make two more sails over the rippled lagoon. Once again we had the beautiful palm-fringed *motu* to ourselves and we passed a few lazy days strolling the coral beaches and snorkelling from *Celeste*.

We sailed back up to the pass on the day of our departure for the 2400-mile passage to Hawaii, sliding through at just the start of the ebb. As we went, we were visited by Rangiroa's favourite residents, its pod of bottlenose dolphins, perhaps the same dolphins we had seen leaping clear of the standing waves all those years before. Rangiroa was every bit as wonderful as we'd remembered and we were every bit as sad to be leaving. And so, once again, as we watched Rangiroa recede in the waves astern, we vowed to ourselves that one day we'll go back.

