

How I survived my Fundies

By Lara Indra

Four full days of lectures, information load, equipment adjustments, dive theory, hearing and saving and applying information, and, of course, diving. Hard work and some – well, actually just hard work. I felt muscles I did not know I had, my brain must have looked like an oversaturated sponge and eating lunch in the undersuit while checking the oxygen level in the tanks became natural. I am surprised that we ever took off our dry suits. It was fantastic!

But let's start at the beginning. Before the course, I already suspected that it would be a tough one. Our instructor Ivan took his task very serious and sent us information, preparation tasks, articles to read, questions, tips, websites. And funnily, he was surprised that we actually read all the material. Thinking back, I was most looking forward to hearing the things that I am currently doing be “improvement-worthy”. Whether in terms of equipment configuration, communication, or diving itself. And of course, I was hoping to improve some of my biggest enemies. Key word valve drill.

Course days

Day 1 held the promise of a tough course: we finished after more than eleven hours! But luckily there was some diving included. After talking about diving all day, I could not wait to actually be in the water. Making it through theory and dry runs, I was very eager to test my skills in the lake, to start with kicks and procedures. First learning underwater: even when the dry run goes well, it might be multiple levels lower in quality when water comes into the game. It was a rather frustrating experience, since I felt that I could do it better. But with all the adjustments to the equipment and our instructor's critical eye, I had to regain basic skills such as buoyancy.

Days 2 and 3 were heavy, too. Theory, dry practice, water exercises, repeat. Kicks, drills, ascents, debriefings, repeat. They went over so quickly! And then on day 4 it was our last chance to show what we learned. I got my first (and only) "perfect"! I practice-rescued my co-diver in a calm and apparently correct way, grabbed, inflated, turned and ascended him without mistakes. What a good feeling - definitely one of my highlights. But apart from that, my frustration was again not disappointed during this very same dive, especially when I felt that we did not make it to the Tec-pass. The de-briefing was honest and thorough, and incredibly helpful. And: we did it with style, sitting in a warm and cozy whirlpool with our wetnotes, after passing the swim test. We must have looked like a rather nerdy group.



Drawing conclusions: challenges

First of all, the visibility was rather bad. Sometimes we could not even see more than one, max. two meters – and that made focussing on reference points difficult, which in turn made keeping the buoyancy hard. I really envy those crystal-clear environments shown in the GUE teaching videos!

I had a hard time to reach my valves with the new height of the tanks on my back. Cramps, numbness and tiredness in my arms and fingers started almost immediately after beginning the drill. Although, I made a mistake-free run at the end, but it took me quite long. So, the next step will be: buy elastic bands and start stretching those shoulders.

Furthermore, the free water ascent was really not my thing. I guess it is the multitasking with many new things: counting to 30 during ascent and again when holding the level, observing the particles (because there was no other reference), holding depth and buoyancy and trim, watching the buddy doing his SMB deployment at the same time, observing his depth and buoyancy and trim and intervene if a step is left out. Count to 30!

Growing frustration under water due to increasing tiredness was a big challenge for me. It was necessary to calm down, breath normal, communicate clearly, push away the anger and regain the focus to do an exercise again. This is something that I want to advance before doing more technical diving, but I could already observe improvements during the course time.

What went well

There were two exercises that went pretty well: the SMB assembling and deployment (something I always struggled with before) and the rescue. I am not sure whether they went well because I like them, or whether I like them because they went well. But it gives me at least some confidence.

After adjusting the tanks and bridge valve and everything, I finally experienced how relaxing the head position can feel! Before the adjustments I had to force my head up, always getting a stiff neck. But it is actually really cool to keep the trim and see straight forward. And it definitely looks better on the pictures than my sea horsing when I started! It was absolutely great to focus on diving for four days straight. Nothing else in the mind, not even a bit of work or everyday sorrows, it was like being submerged in another world, escaping normality :-)



The world of GUE opened up after the course. I got introduced into multiple local and national GUE community groups on different messengers and social media platforms. I already went diving with different “stranger” GUE members, got invited to events, and found a buddy for my next course in Spain. I am definitely looking forward to making use of these groups more often and connect, also beyond national borders.



My top tips for the Fundies

I was freezing (despite 11 °C water temp) and had problems to warm up between dives towards the end of the course – consider hot tea and cozy undergarments. In order to stay hydrated and not having to go out of the water every 30min, consider installing a p-valve/ she-pee or wearing diapers – best investment. My suit was relatively new and did not fit perfectly, my boots were too big and captured air all the time. This almost constantly lifted my legs and caused trouble for basically everything I did under water – learning: don’t wear the new stuff, it might lead to overload. And last but not least: Ivan – and every other GUE instructor I was in contact with until now – was extremely helpful, eager, motivated and more than happy to support with anything, including restaurant booking (foreign language..) and ordering wetnotes for us. Do not shy to talk to them.

For all of you that think about doing a Fundies, do it. I tried new things and stepped out of my comfort zone. I feel like I have a much deeper understanding of my dive equipment and became more critical towards my style of diving. I also started to dive with “strangers” that help me to maintain my GUE practice after the course, and I learn a lot from their experiences.

I feel motivated and ready for training and practice to upgrade to my tec pass!



My Journey as a GUE Trainee 2023 in Sardinia (2024)

GRETA FREIWALD

The Fascination Begins - Dreams of Cartography and Citizen Science

Since the beginning of my diving journey, I've been fascinated by the enigmatic world of underwater caves, full of irresistible mysteries promising adventure beneath. I dreamed of becoming a cave diver, but I knew the risks of diving in overhead and hostile environments. I wanted to do it anyway, but as safely as possible.

After completing my Open Water Course, I began searching for the safest ways to slowly move towards my goals. I came across GUE, an organization renowned for its meticulous approach to diving, and decided to continue my journey with them.

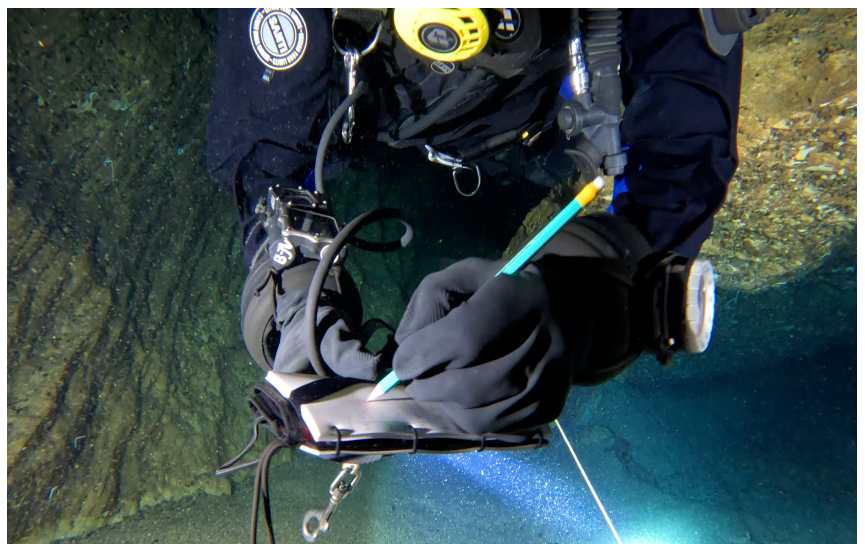
Joining GUE meant starting with the Fundamentals course, which introduced me to the GUE way of diving. WOW! It was unlike anything I'd experienced before. Then came the Tech 1 course, which pushed me further into deeper depths, decompression, gas management, and more serious forms of diving. Finally, the Cave 1 certification opened the gateway to the subterranean world I had desired to explore for so long.

I've always wanted to have a goal and purpose beyond just swimming in and out of caves. Cartography seemed both inspiring and fulfilling, as did the idea of becoming a citizen scientist. My ambitions extended beyond mere exploration. Here came GUE which presents great opportunities to participate in cave projects, and has provided a path for me to gain a glimpse of cartography and become a citizen scientist through summer projects in Sardinia, where I joined three different projects as part of my GUE Trainee Program. It was six weeks of intensive cave diving and learning.

Project 1: Ecosystem Characterization of the Bue Marino Cave System

The first project I joined was the Ecosystem Characterization of the Bue Marino Cave System, organized by Peter Gärtner and Phreatic organization. The goal was to collect scientifically relevant data from the cave for further examination. Teams of divers, equipped with scientific tools, were assigned to collect sand and water samples, measure air pocket sizes, and assess salinity in haloclines and different cave layers. In addition, we measured the amount of aquatic life present in the cave.

This project was perfectly suited to the skillset of a Cave 1 diver like me, though it offered even greater challenges for higher levels, as they could venture deeper into the cave and survey more



distant areas. My personal challenge was my lack of scientific knowledge and the specialized jargon, but by the end, I had learned enough to hold my own in a room full of marine biologists. Overall, the project felt very rewarding.

Project 2: Photogrammetry of Grotta Del Fico cave

Next was the photogrammetry project (aka 3D mapping) of Grotta Del Fico cave. Imagine trying to create a 3D map of a cave. Sounds wild, right? Yet there I was—a videographer documenting the process. Although I didn't know much about photogrammetry, this was (probably) my favorite cave in Sardinia. My only way to participate and learn more was by taking on different tasks, like filming the process.

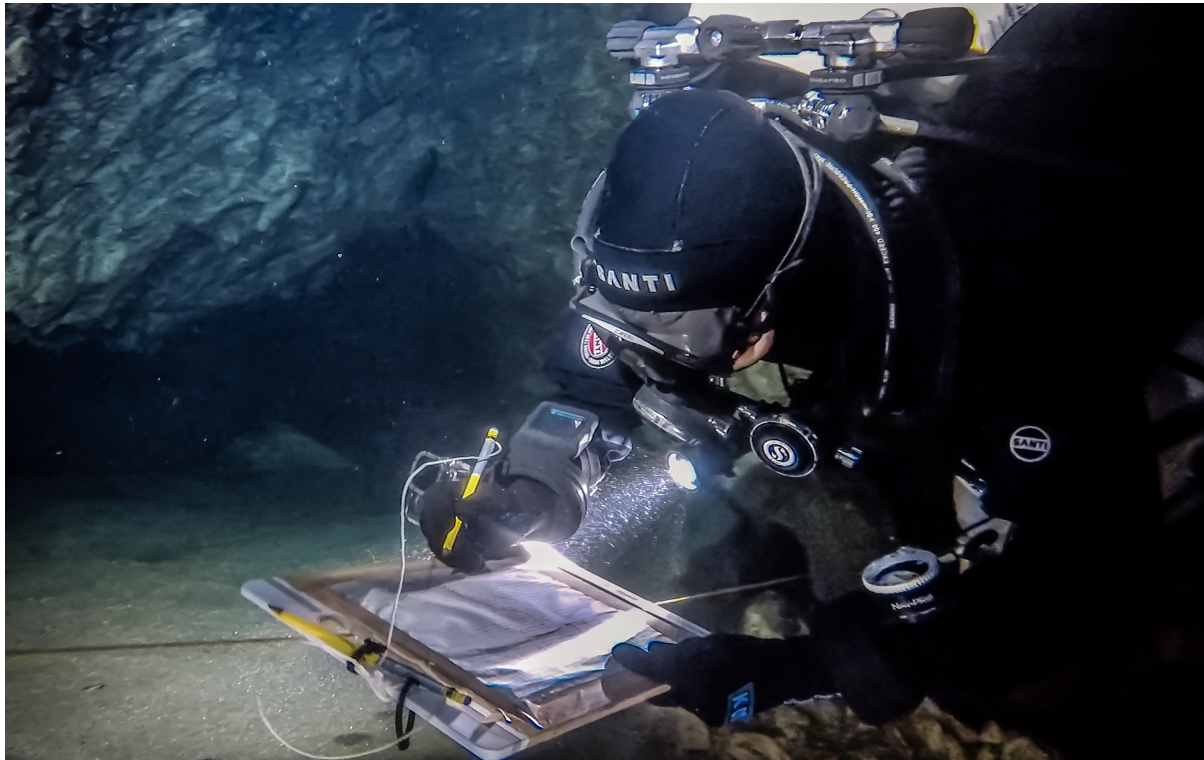
The project lead, Matteo Collina, aimed to connect previously mapped sections of the cave with new areas, which were mapped during my time in Sardinia! Cave photogrammetry is complex, but it's a wonderful tool for showcasing the cave and its passages to both divers and other cave enthusiasts. Despite my limited knowledge, I found the project fascinating, and we produced excellent results. It's a field I'd love to explore further—no pun intended.

After two project weeks, I decided to challenge myself further with a Cave 2 class. Initially, I was hesitant, but I couldn't have made a better decision. Our instructor, Andrea Marrasich (aka Mara), was a legend—both as a teacher and an explorer, with many dry and wet cave expeditions under his belt. The class was full of excitement and challenges. We navigated deeper into caves, and I finally got to see what lays “beyond the second T” or a jump. We also learned to manage multiple stages, complex navigation and honed our decision-making skills. It definitely made me a more experienced diver and better prepared for my next project.

Project 3: Line Re-Laying and Survey of Cala Luna Cave

The final project I joined was the line re-laying and survey of Cala Luna Cave. Cala Luna was a hidden treasure for me, as I hadn't seen much of this cave until after earning my Cave 2 certification. Initially, the teams had three main tasks: inspect the old line and tie-off points for replacement, create the cave's plan and profile, and video-document the passages for cartographers. My task was to draw the cave plan, which was a real deal for me. With a university degree in art and experience as an art director, I thought, “How hard can it be?” Well, reality hit hard! Drawing the cave plan underwater while scuba diving was probably more difficult than my first valve drill, haha. It was one of the most challenging things I've ever done underwater in terms of thinking and concentration. Often, I imagined myself sitting on a sofa, drawing comfortably, but instead, I had to maintain my trim and buoyancy while trying to understand the plan of the cave from the inside. I also couldn't forget my responsibilities as a diver, like checking my gas and time. Time passed quickly, and it was easy to lose track. After three days, I discovered that my drawings didn't match the original line measurements - it was frustrating. I had to start all over again. But this only made me more persistent and determined to finish the task with a better outcome.

Despite the challenges, I really enjoyed this task - it was very interesting as this entire project. It's something I would love to continue doing in the future.



The Conclusion of my Journey

Through humor, challenges, and triumphs, my journey as a GUE trainee in Sardinia and my participation in the projects were nothing short of transformative, valuable, and memorable. I learned how to multitask in caves, balancing diving duties with scientific tasks. I gained skills in cave surveying, sample collection, and citizen science. Most importantly, I became a more confident and competent diver. The end of my Sardinian adventure wasn't just a conclusion—it was a new beginning!



NextGen Trainee blog - Seamounts, Sea Lions and Seadragons

Paige Maroni – Boorloo, Western Australia

Kaya! My name is Paige Maroni, I am a Postdoctoral Research Fellow located in Boorloo, Western Australia. With a background in discovering biodiversity in extreme environments such as Antarctica and the deep sea, I utilize molecular tools and bioinformatics to study organisms like nudibranchs, sea snails, amphipods, and deep-sea fish. I am also a 2024 GUE NextGen Trainee and aim to combine my passions for SCUBA, subsea technology, and science to become an all-round diver who specialises in extreme marine environments. In today's blog post, I am going to recount a scientific voyage of a lifetime, with some fun recreational dives mixed in.

Diving with a Remotely Operated Vehicle (ROV SuBastian – Schmidt Ocean Institute)

New Year's Day, 2024, I embarked on a thrilling journey to the airport, laden with three bulging bags and a tidal wave of excitement coursing through my veins! Just to be clear... I did not severely overpack; my bags were bursting with sample collection vials, tools, work boots, cameras, sample identification guides and a lot of label paper. I was on my way to Valparaiso, Chile to join the "Seamounts of the Southeast Pacific" research expedition onboard RV *Falkor (too)*, operated by Schmidt Ocean Institute (SOI)¹. This voyage spanned across six weeks, 10 seamounts (underwater mountains), three oceanic ridges and two Chilean Marine Parks. Throughout this remarkable voyage, we had the privilege of utilising ROV SuBastian, SOI's 4500-meter rated Remotely Operated Vehicle, to meticulously explore, document, and gather crucial data on numerous previously undiscovered, unexplored, and undocumented deep-sea seamounts, species, and ecosystems. For those unaware, a "ROV" is an underwater robot controlled by a team of pilots and technicians onboard the mother ship above. It is equipped with sensors, cameras, lights, and collection devices, used to conduct targeted subsea surveys, in this case, for scientific exploration.

ROV SuBastian being deployed from RV Falkor (too). Image credit: Paige Maroni



The main objective of the voyage was to investigate the biodiversity and distribution of marine species across the selected seamounts and it's safe to say, this goal was well achieved. From depths ranging from 3000 m to 500 m, we conducted 19 ROV dives along the Nazca Ridge, Salas y Gomez Ridge and the Juan Fernandez Ridge and were able to discover dozens of new species!! As well as the ROV operations, we also deployed baited landers which are freefall autonomous subsea vehicles that sit on the bottom and attract scavenging marine organisms such as fish and amphipods (a type of crustacean). The landers were my responsibility onboard this vessel, meaning that I was able to experiment with bait and trap configurations, deployment depths and so on. It also meant that I spent a lot of my time on board the ship chopping up rotting bait fish for the traps—a job that no one seemed willing to help me with (still can't really figure out why). Deploying landers meant that we could target different types of marine species. Instead of bottom-dwelling, stationary marine species like corals and sponges, we could instead target these predatory groups giving us a sense of the true biodiversity within the region.



Paige Maroni baiting lander traps. Image credit: Alex Ingle

Another one of my responsibilities aboard this vessel was to provide live narration for the ROV dive stream during both the descent and ascent phases, all the while documenting every species encountered throughout these dive segments. The mid-water truly is the world of the jellies and my gosh, I never thought I'd say this but marine jellies (siphonophores, pyrosomes, jellyfish, worms and larvaceans) may be some of my new

favourite groups of marine organisms. By profession, I am a benthic marine biologist, but this voyage might just have swayed my perspective, enticing me to appreciate the wonders of swimming creatures as well!

A mid-water siphonophore, Bathypphysa sp., Seamount of the Southeast Pacific expedition 2024. Image credit: ROV SuBastian sub-pilots JRod and Chill.



This voyage truly enabled me to grasp the intricacies of ROV operations while also marvelling at the incredible biodiversity and complexity of seamount ecology. By spending hours upon hours, day-by-day working side-by-side with the ROV team, I was able to ask questions, get my hands dirty and experience ROV operations and ROV maintenance. As divers, we appreciate how complex our self-managed system is... whether that be our breath, our buoyancy, or our gases. While diving with an ROV, I learnt to appreciate the physics and mechanics of diving, something I had not spent much time considering when going for a recreational dive with my buddies. Also, by working alongside the ROV pilots, marine technicians, deck crew and watchman, I gained an enormous appreciation for teamwork and communication. Such complex subsea operations were conducted without breaking a sweat, demonstrating to us, participating scientists, firstly, that this team is world-class, and secondly, that despite the complexity, expense, and logistics of any operation,



flawless execution relies on communication and teamwork—a core value that I am eager to experience through my Fundamentals Training and all other courses I enrol in as a GUE Trainee.

Maroni being trained by the ROV sub pilot team during an ascent. Image credit: Rich Jeong

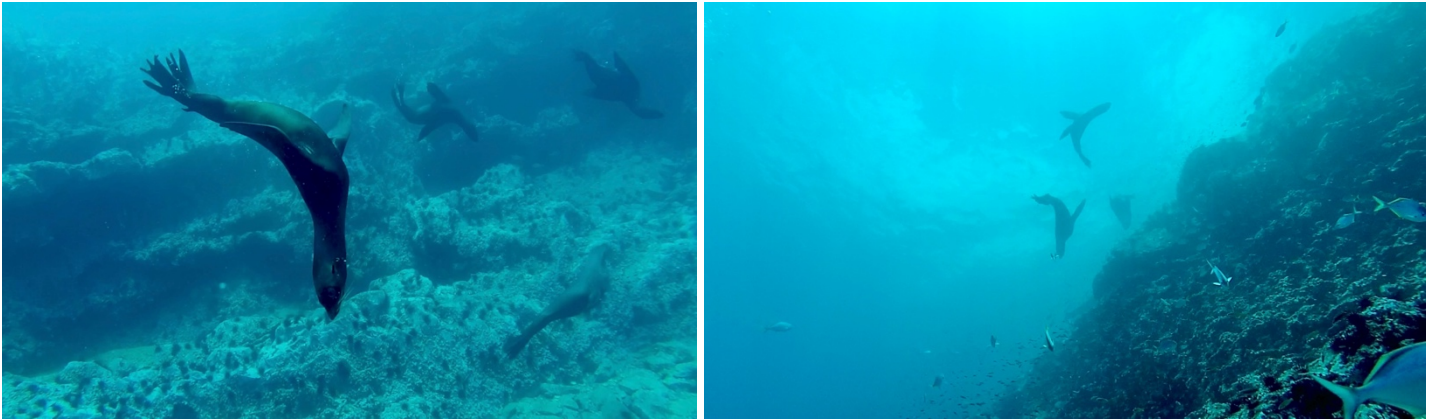


Paige Maroni pointing an organism of interest in RV Falkor (too)'s Mission Control room. Image credit: Alex Ingle

Diving with endemic Robinson Crusoe Island Sea Lions

Did someone say recreational diving... yes please! It was February 5th and we had arrived at Robinson Crusoe Island, an island that sits within the Juan Fernández Marine Park. We had a day to disembark from the ship and explore the island, while the locals were invited to board the research vessel and observe the science we had been conducting in their surroundings. For some, visiting this locale was like a homecoming, as we had multiple residents participate in the voyage. An immense highlight from our visit to this island was the warm welcome from Marco's grandmother, who was the grandmother of one of the cruise participants, Marco. She beamed with pride as she greeted us, and it was an honour to meet her and receive her heartfelt welcome ashore.

Another remarkable aspect of the day was being able to SCUBA with the endemic Robinson Crusoe Island Sea Lions! These playful pups treated us to an unforgettable show, making our dive an absolute delight as the Sea Lions darted and spun around us with boundless energy and agility. Two of us conducted this dive using backplate and wing setups, donning 7 mm wetsuits. Despite the sunshine, the Antarctic Bottom Water floods this area with nutrient-rich yet icy water, making thick suits a necessity! We spent a lot of time hovering above beds of sea urchins, back kicking to enjoy the spectacle unfolding above us. Maintaining our buoyancy, we marvelled at the curiosity and energy of the pups.



Three playful Robinson Crusoe Island Sea Lions. Image credit: Paige Maroni

Home time

The last few days of a research voyage are always bittersweet. You must farewell your “ship family”, not knowing if you will ever see them again - but you are also packing your bags, ready to return home to your creature comforts, your loved ones, and your favourite coffee shops. When I arrived home in March, I immediately drove 5 hours south to small coastal town on the south-west coast of Western Australia called Bremer Bay. Every summer as a child, this town is where my father would bring myself and my sisters, so it certainly feels like home to me. Swimming in the bay, surfing at Native Dog Beach or having an ice-cream from the General Store, it was a very pleasant welcome home.

Some things have changed about this small town since I grew up here... Now, there's a popular dive trail that attracts SCUBA divers from all over Australia who come to witness the mesmerizing beauty of Leafy Seadragons. I jumped into the water with these incredible



creatures, and although the surge was intense and sent my dive buddy and me side-to-side, we were accompanied by a local guide with hawk-like vision who could point us in the direction of the dragons. Without him, I don't think we would have seen one! Like my dive in Chile, I used with a BPW set-up along with a 7 mm wetsuit.

A Leafy Seadragon from Bremer Bay, Western Australia. Image credit: Paige Maroni

Thank you for your interest! If you have any questions relating to this blog, please contact maronipaige@gmail.com