Deep Adventure

Many of us dream about exploring the great depths of the oceans in a safe and comfortable way. Finally it's possible! For a handful of dollars you can now play aquanaut for a day, in a submarine so far accessible only to scientists. We went to Curaçao to have our dreams fulfilled.

"Curasub to topside. Requesting permission to dive," pilot Barbara van Bebber says.

"Topside to Curasub. Go ahead – have a nice dive," the immediate reply sounds over the loudspeakers inside the small submarine.

Barbara lets a little air out of the ballast tanks as she steers the submarine out of the docking station in Curasubs private, sheltered harbour. Just a few yards away the beautiful coral reef plummets into the abyss, and the hum of the electrically driven propellers signals the start of our journey. Our bodies are tense with excitement and expectations. We're at the Caribbean island of Curaçao, and we're headed for the eternal darkness a thousand feet deep.

Roundtrip

"We're going to give you quite a roundtrip today," Barbara says while manoeuvring the sub towards the drop-off with a joystick.

There are four people in the sub today. Barbara van Bebber sits in the middle piloting the sub while Bruce Brandt, who is also a pilot, is sitting in the back. He's just coming along for a joyride. Photographer Stein Johnsen and yours truly are placed up front by the large acrylic dome where the view is the best. Barbara can easily see between us, but she's also got several video screens and a 360° sonar to aid her in piloting the submarine.

"Usually there's one pilot and two passengers, but sometimes we have five people on board," Barbara explains before briefing us on the dive we're about to start.

"We'll be heading east along the coral reef to look at two shipwrecks located at 150 feet, before heading down to 290 feet to look at a giant gorgonian coral fan. After that we're going to plummet down a 250 feet wall which starts at 560 feet. At the foot of the wall we will be at 810 feet, and from here we're going to navigate in a westerly direction until we reach 1.000 feet. We'll have a nice two-and a-half hour trip, so I hope you remembered to use the restroom," she says jokingly.

Wave home from the reef

Our first stop is at just 45 feet, right outside Substations harbour. Underwater photographer Barry Brown is waiting for us – everyone who dives with Curasub is photographed, and no-one leaves without a memory stick filled with very special images and a cool certificate to hang on their wall.

A professional to his fingertips, Barry shoots the submarine from all possible angles and waves at us to come even closer to the large dome at the front. The photo shoot is done in front of a permanent, underwater webcam so friends and family back home can watch the whole thing online as it happens. With great precision Barbara manoeuvres the sub close to the webcam giving us the opportunity to wave to anyone watching. The clip will also be posted on YouTube for the passengers to watch later.

After a few minutes Barry is satisfied with his images and waves a quick goodbye. Barbara backs the sub away from the reef and lets more air out of the ballast tanks. We're on our way.

“We always do the descent facing the reef. This way we always know the distance and we don’t bump into anything,” she explains.

She might know the distance, but we’re pretty far off the mark sitting behind the thick acrylic dome for the first time. We estimate that the reef is less than 10 feet away, but Barbara tells us that she’s keeping a 45 feet distance.

The tugboats

Curasub has now turned east, and we’re flying along the coral reef while slowly getting more and more water between us and the surface. It’s a strange feeling to supersede my maximum sports diving limit while lying comfortably on a couch. The pressure in the cabin is at one atmosphere at all times, so there is little feeling of depth apart from what we see through the dome. The propellers hum in the background and we’re enjoying the ride while Barbara keeps feeding us interesting and useful information about the sub and what we see outside. At certain intervals and locations she reports back to the crew on the support boat at the surface. Information about where we are, depth and different readings are routinely passed to the people topside. Every message is acknowledged, and the details are logged somewhere up there in the sunshine.

Into the abyss

After photographing the twin wrecks we venture deeper to have a look at a 10 feet wide coral fan growing at an incredible 290 feet below the surface. Barbara carefully gets us as close as she can and turns on the floodlights to bring out the beautiful colour of the coral.

When we get even deeper, there are no more coral to be seen. The bottom is made up of volcanic rock, and the number of fish decrease as the sunlight dwindles. At 560 feet we slowly glide over a sharp edge. Below there is nothing but abyssal darkness – and we keep heading straight down.

The huge rock wall appearing in front of the acrylic dome is completely out of this world. We’re in the twilight zone and as we pass below 600 feet there is just a slight, blue shimmering above us. It’s still enough to see most of the awe-inspiring, 250 foot wall rising towards the surface, covered with cracks and ridges like an old man’s face. Would you believe it – we don’t even have the floodlights turned on!

Reaching 1.007 feet

“Curasub to topside. We are at the ridge. Depth 1.007 feet,” Barbara speaks into the microphone. The loudspeakers crack slightly when topside answers. The connection is not quite as good as earlier in shallower water, but good enough for Barbara to deliver her status report.

We have come to a halt at the foot of the huge wall, where it disappears into the sloping bottom sediments. The last 180 feet of the descent was made with full floodlights, and the depth gauge shows a staggering 1.007 feet. The temperature outside is just 54°F, but even 1 hour 40 minutes into the dive we’re comfortable and warm inside the submarine.

The thought of what it would feel like to be inside a giant ”underwater housing” at this depth had of course crossed my mind a few times before arriving at Curaçao. Would it be comfortable, and more importantly – would I feel safe? I had worried that claustrophobia might sneak up on me, but sitting at the bottom of the ocean did not feel the least bit uncomfortable or risky. The submarine is approved for much greater depths by the renowned Germanischer Lloyd, and the competent pilots know the area like the back of their hands after close to 500 dives in the area. I was enjoying the ride, and had nothing else on my mind besides

getting the most out of the experience while we were submerged.

At this depth the ocean is barren and lifeless compared to the teeming life we saw in the shallows, but every once in a while creatures we have never seen before turn up in front of the dome. Barbara is steering us close to the mountain so we get to see fish and crustaceans only found here in the abyss. Suddenly a fish that seems somewhat familiar comes into view – a moray eel! It behaves strangely and looks rather confused as it bumps into stuff while trying to swim away. Maybe it's got nitrogen narcosis?

50/50 Science and tourism

After staying a while at a little more than 1.000 feet it is time to start the journey back to the surface. Barbara turns west and tells us more about the many uses of the submarine and exciting things they have planned in the future as we hum along.

"We're quickly coming up on 500 dives, which is a lot in just 18 months. No other deep ocean submarine is being used this much. About half the dives are with tourists, while the other half brings scientists from many nations into the deep. We're having a 120 foot research vessel named "Chapman" rebuilt to serve as a mother ship, enabling us to take both scientists and tourists on expeditions to other locations. It will be ready quite soon and then we can do both daytrips and longer expeditions," Barbara tells us.

While she's talking about this it's getting lighter outside, and she turns off the powerful floodlights. Slowly, we're getting back to shallow water and the temperature rises noticeably.

"It sometimes gets a little hot inside if we're staying too long at sports diving depths since the water temperature is 82°F. Most of our guests choose a standard dive with a maximum depth of 450 feet. Down there it's about 71°F which is a little more comfortable for us on the inside," Barbara says.

Condensation has made the walls of the cabin moist, but apart from a few droplets on my forehead the dive has been a very comfortable experience. After 2 hours 22 minutes we're back at the surface and safe inside the Substation Curaçao base. It has been a marvellous day and the memories will no doubt last a lifetime.

The wreck of Stella Mares

At 450 feet just outside the Substation base lies the wreck of Stella Mares. She is the main target of our second dive with Curasub, and today Michiel van der Huls has the controls. Michiel isn't just a submarine pilot – besides being a dive physician and an eager sports diver, he is also a very nice and impressive guy.

Like the other Curasub pilots he has vast knowledge about the marine life in the area and he naturally knows every nut and bolt on the submarine after a long training course hosted by the manufacturer. With a steady, calm hand he manoeuvres the sub slowly along the reef while he's telling us all about what we're seeing outside. We're getting close to the highlight of the dive – Stella Mares.

"Our one-and-a-half hour dive will take us to the Stella Mares, where we will spend most of our time. This is a standard dive we often do with guests," Michiel tells us while motioning to make us look forward through the dome.

We're cruising along the sloping bottom at 420 feet when something dark and ominous starts to take shape ahead of us. Here she is, the Stella Mares, a former cargo ship which in 1989 was taken in arrest by customs after they found a large quantity of illegal drugs on board.

"Five years later the ship was cleaned and ready to be sunk as an artificial reef. Unfortunately something

went wrong and she was sunk in water too deep for divers," Michiel explains.

He has manoeuvred the sub close to the bow of Stella Mares, which lies on her starboard side with a 90° list. The wreck looks small, but again it's just the optics of the acrylic dome fooling us.

"Come have a look through the flat window above me," Michiel says.

I crawl to the back end of the sub and look out the flat observation window located in the subs entry and exit tower. To my surprise the wreck is huge! Seen through a flat window without any distortion I get a true sense of size and distance, and Stella Mares is suddenly a "large ship" instead of a "small boat".

We follow the side of the wreck towards the deep end. I'm back by the large dome at the front when Michiel halts at the stern of the wreck and turns the sub around so we can have a look. The floodlights are off but we can still see the full length of the wreck – and this is a 240 foot ship! Visibility must be at least 300 feet and it is a magnificent view for sure.

Combine with scuba diving

If you're fascinated by the deep ocean and the magnificent creatures and shipwrecks hidden there, a dive with Substation Curaçao offers a unique possibility to explore and experience something completely out of the ordinary. Many people, and divers in particular, have this dream – and finally it is possible to have the dream come true.

"It is really a fun and fulfilling job to pilot the Curasub. Most of our guests are ecstatic after the experience, whether they are divers or not. Most of the divers combine the submarine dive with scuba diving on the beautiful coral reefs of Curaçao," Michiel tells us.

We're of course doing the same thing, and after finishing our second and last dive with Curasub we pack the rental car with dive gear. A few wonderful days of coral reef diving is waiting, and although the tug of the deep most certainly will be there we look forward to some memorable, shallow dives. The combination is almost unbeatable!

Facts about Curasub/Curaçao

Substation Curaçao has been in operation for a year and a half, and they celebrated dive number 500 with the Curasub on December 22, 2011.

Substation Curaçao is a subsidiary owned by Curaçao Sea Aquarium, where they are located. In addition to diving with tourists and scientists, the submarine is used to collect deep water fish species for the aquarium.

Curasub is certified for an operating depth of 1.500 feet, but has been designed to withstand pressure many times this depth.

On the inside, Curasub's pressure hull measures 3 feet 10 inches, and is 8 feet 8 inches long. The large acrylic dome at the front measures almost 3 feet 4 inches. In addition, Curasub has six smaller windows, two on either side and four in the tower.

The pressure inside the submarine is always one atmosphere, just like on the surface. The CO2 is cleaned with a scrubber system of the same kind found in rebreathers, and the total breathing gas supply is 480 man-hours.

The submarine is electrically powered by a total of 20 batteries in two outside cylinders. The operating power is 240V and drives six thrusters (propellers). The ballast tanks create 1.455 pounds of buoyancy and droppable lead weights another 1.984 pounds.

The pilot stays in connection with the topside crew via a two-way radio system, and Curasub has several outside video cameras delivering live feeds to the screens in front of the pilot. Curasub is also equipped with powerful floodlights and a 360° sonar, as well as manipulator arms with suction hoses used by scientists and the aquarium for collection of fish.

Anyone with normal health can do a dive with Curasub. A medical waiver is available on the Substation homepage.

Scuba diving at Curaçao

The Caribbean island of Curaçao is located north of Venezuela, and has always been one of the region's favourite dive destinations. The best diving is found on West Punt, about an hour's drive from the capital city of Willemstadt. In other places, the diving was more average, but West Punt and especially the dive site Watamula really impressed us.