

# **NZ Dolphin Underwater & Adventure Club Newsletter March 2020**

Next Club Meeting: Wed 11<sup>th</sup> March 2020 – 7:30pm

Club Rooms

Guest speaker: Video

[\*\*www.dolphinunderwater.org\*\*](http://www.dolphinunderwater.org)



**Club's Mail Address:  
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**Club Contacts  
Phone numbers & emails  
Committee listing inside**

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### Life & Honorary Members

Barry Barnes – Life	Peter & Margaret Howard – Life	Brian Horton – Life
Reg Lawson - Life	Roberto Tonei – Life	Dave Quinlan – Life
Graham Thumah – Honorary	Tony & Jenny Enderby - Honorary	Eileen Slark – Honorary

**Cover Page Photo:– Spotted Rays in Vancouver Aquarium by Denis**

### What's on our coming agenda?

**11<sup>th</sup> March – Wed – 7:30pm – Dive club meeting. Video**

**8<sup>th</sup> April – Wed – 7:30pm – Dive club meeting Pizza Night AGM**

**17<sup>th</sup> - 19<sup>th</sup> April – Fri - Sun – Whitianga Dive Festival 2020. See details in February mag.**

**22<sup>nd</sup> May – 1<sup>st</sup> June 2020 – Kermadec Islands Trip** – 11 days – 2.5 days sailing each way – pristine diving Raol and Meyer Islands - Up to four dives a day will be available approx. time 8.00am 11.00 am 2.00pm and 5.00pm (almost night dive). May also be able to go ashore if conditions are right and DOC agree. Accommodates 14 divers (*2 places still available*) – in conjunction with Mt Maunganui Club, leaving Tauranga on 'MV Braveheart'. Four Dolphin Members have their name down so far. Price is \$NZ5750 a \$NZ2000 deposit by 1/2/2020 Contact **Steven Grant 0276583599** for further details. Some info on the ship - <https://braveheartexpeditions.com/> I have attached PDF files with a little more info also the youtube videos.

- <https://www.youtube.com/watch?v=WSOADEU5-3w>
- <https://www.youtube.com/watch?v=wWXPpBt4HV8>

**22<sup>nd</sup> May – 1<sup>st</sup> June 2020 – Kermadec Islands Trip** – 11 days – 2.5 days sailing each way – leaving 5 days pristine diving Raol Island - \$5750pp - accommodates 14 divers – in conjunction with Mt Maunganui Club, leaving Tauranga on 'MV Braveheart'. Five Dolphin Members have their name down so far. Contact **Steven Grant 0276 583 599** for further details. Some info on the ship - <https://braveheartexpeditions.com/>

**10<sup>th</sup> – 18<sup>th</sup> June 2020 – group going to Rarotonga** – Diving, snorkelling trip - (My 0274 839 839 number will be on hold from the 28<sup>th</sup> Jan until 21<sup>st</sup> March) contact Margaret if keen to join in..

**21<sup>st</sup> – 30<sup>th</sup> August 2020 – Club Trip to Fiji** — For divers and non divers. We had such a wonderful trip to Tonga – we want to do the same in Fiji. We have had a number of Club trips to Fiji in the past, we will be diving and visiting different areas this time. (My Oz number is 0061 459 806 660) Margaret.

**Upcoming Trips with Performance Dive NZ you may be interested in 2019 - Ph. 489 7782**

Sat 14<sup>th</sup> March – 8:30am – Local boat dive departing Takapuna or Omaha

Sun 15<sup>th</sup> March – 9:00am Shore Dive – Local Coastline (Ring shop).

Sun 22<sup>nd</sup> March – 8:00am @ Tutukaka - Poor Knights Islands Day Trip – 2 dives

Sun 22<sup>nd</sup> - March– 8:30am – Local boat dive departing Takapuna or Omaha

Sat 28<sup>th</sup> March – 8:30am – Local boat dive departing Takapuna or Omaha

Sun 29<sup>th</sup> March - 9:00am Shore Dive – Local Coastline (Ring shop).

**Upcoming Trips with Global Dive you may be interested in 2019 - Ph. 920 5200.**

Sat 14<sup>th</sup> – Sun 15<sup>th</sup> March – Bay of Islands Weekend

Sat 28 – Sun 29<sup>th</sup> March – Poor Knights Is 2 Day Trip Live a Board

**Other events & suggestions please contact a committee member or organise it yourself & get the club to make up your numbers. i.e. – Dives, trips NZ & O'Seas, Events, Outings, Tramps, Dinners, Movies, whatever social event tickles your fancy.**

**Our Club's Trip Rules (Organiser's rules apply for overseas trips)**

- A. Bookings allowed on all trips.
- B. **A deposit or full payment to be made at time of booking.**
- C. Full payment MUST be paid at least two weeks before departure date.
- D. Trip Organiser to handle trip & bookings, & Treasurer to handle finances. Cancellations due to weather will be refunded in full, or transferred to another trip.
- E. Members cancelling for any reason will lose full monies unless they find a replacement for their position on the trip.
- F. The trips Organiser will determine if there are enough people to run a trip & if not will notify cancellation two weeks prior to departure.

**Non-Members & non-financial members will be charged an extra \$10 on trips.**

*Two trips & club membership is a must.*

**Membership: Single – \$40 Family - \$50.00**

**Some of you have not paid yet! Please do so ASAP**

**When financial you will then receive one of the new CLUB membership cards.  
Have you paid your subs yet – see Margaret or Trish next meeting or do it online.**

**Club's Internet bank account is 06 0122 0074227 00 & don't forget to put in your name  
or cheques posted to Club's mailing address, (front page).**

Club Membership also includes **Affiliation to the New Zealand Underwater Association**



‘Hey Grandad! There’s the Beatles ‘Yellow Submarine’



## **Microplastics found in NZ green-lipped mussels**



Microplastics have turned up inside green-lipped mussels - and researchers say we still don't understand what that means for people consuming the popular kaimoana species.

[By: Jamie Morton](#)  
Science Reporter, NZ Herald  
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[@Jamienzherald](#)

Microplastics have turned up inside green-lipped mussels – and researchers say we still don't understand what that means for people consuming the popular kaimoana species.

So small that they're typically invisible to the naked eye, microplastics nonetheless pose a goliath threat to our oceans.

These particles of broken-down plastic products are now being found within rainwater, sea salt, air and even us, entering the food chain through a range of species like tuna and mackerel.

Recently-published findings show we can now add NZ green-lipped mussels to that list.

University of Canterbury scientists set out to check the species after earlier studies indicated microplastics were widespread across New Zealand beaches.

Being filter feeders that siphon large volumes of water, and much larger than other mussel species used in studies overseas, made them important to assess.

Nine sampling sites were used so the team could get a clear idea of how concentrations varied around the country.

After the mussels were collected and shucked, the scientists physically extracted the microplastics and then counted each particle under microscopes.

They found microplastics were found in mussels at six out of the nine sites, at abundances ranging from zero to 1.5 particles per mussel.

The particles themselves varied in size from 50 to 700 micrometres, with a median diameter of 100 micrometres.

The most common plastic type found was polyethylene, which didn't surprise the team as it was the most commonly-used polymer in New Zealand.

So small that they're typically invisible to the naked eye, microplastics nonetheless pose a goliath threat to our oceans.



Environmental chemist Associate Professor Sally Gaw said the concentrations were at the lower end of what had been reported for mussels in the Northern Hemisphere.

"We were surprised that the concentrations found did not correlate with population density as has been found overseas," said Gaw, who, with Professor Islay Marsden, supervised student Samantha Webb on the project.

"This may be due to New Zealand's overall lower population density."

But Gaw noted the research was a small pilot study that only aimed to determine if there was an issue – which meant the team could only draw on a limited number of mussels from a small number of sites.

They also found that microplastic contamination among mussels was "very variable".

"This is because we are literally looking for small bits of plastic and the number, types, colour and size can be very different for mussels collected from the same site at the same time, she said.

The findings prompted further questions that needed addressing.

"We need to determine the types and concentrations of microplastics in shellfish with different feeding mechanisms," Gaw said.

"Mussels are filter feeders so they take up microplastics from the water whereas other species like paua graze on algae.

"It would also be interesting to look at sediment dwelling organisms like polychaete worms to see if they have higher concentrations of microplastics."

And ultimately, we needed to know what eating polluted seafood meant for us.

"We don't yet know if there are human health implications for people consuming shellfish containing microplastics."

The scourge is the focus of several major studies now underway – one based at Auckland and Nelson, and another which has suggested fibres from washing clothes are the biggest part of the problem.

While New Zealand has moved to ban microbeads, the wider problem of microplastics couldn't be tackled in the same way.

Current legislation encouraged product stewardship and environmental responsibility at the beginning of a product's life cycle.

Globally, microplastic pollution has become so invasive and ubiquitous – it's estimated eight million tonnes of plastics now enter the sea each year – that the United Nations has likened its impacts to climate change.

**This sign seemed very appropriate for this article.**





# Left at Sea



By [Divers Alert Network \(DAN\)](#) February 18, 2020



Scene from Open Water movie

The diver was a 45-year-old man who began diving in 2000 and got certified as an advanced open-water diver, nitrox diver and drysuit diver in 2007. He had made a total of 52 dives, most of which were in the ocean. Prior to the incident he had not been diving for eight years but had recently undergone two skills and buoyancy refresher classes at the location of the incident: One was just before the incident, and the other was during the previous year.

## The Incident

The diver rented all his gear and booked a morning boat dive that would be followed by a shore dive. When the group met at the dive shop, the sea looked calm, the forecast was clear and sunny, and the water temperature was around 80°F.

The dive group consisted of the diver, two female divers and a male guide. The three customers wore full wetsuits, and the guide wore a shorty with a hood. They set up their gear and were briefed in the shop before they headed to the boat. The plan was to descend onto the reef and gradually ascend as the dive went on. The site was about a half mile offshore, and the boat ride took 10-15 minutes. The diver began the dive with 2,800 psi in his tank.

The divers descended to the planned depth and swam toward the reef. After a while the diver informed the guide, as planned, that his gas supply was down to 1,500 psi. They swam some more until he signaled that his air was down to 700 psi. They ascended and made a five-minute safety stop, during which the guide deployed a safety sausage.

At the surface there was no boat was in sight. The divers figured they would probably be picked up after a few minutes. They inflated their BCDs and relaxed. It was a bit breezy, and the seas started picking up a bit. After maybe 30-60 minutes, the diver could see the flybridge of a sportfishing boat close to shore moving north to south then south to north. Based on the height of the vessel's bridge and the relatively calm seas, the divers hoped they would be spotted easily. None of them had a signal mirror. The boat kept heading north, then they lost sight of it.

More time passed, and then they saw a single-engine passenger plane with multiple windows. They waved their arms and the single safety sausage to no avail. The plane did not deviate from its course.

The wind-driven waves built to 2-3 feet with occasional 4-foot waves, which would cause the divers to take in mouthfuls of seawater. None of the divers had a snorkel. The guide suggested that the group swim toward shore to

offset at least some of their seaward drift. The divers finned at a sustainable pace for a long period. They dropped their weights and eventually their tanks — except for the guide, who had taken off his BCD, fully inflated it and was laying on top of it. At one point the guide had everyone join hands and swim backward together, pulling one another as needed, as each diver's energy varied over time.

At 3 p.m., after four hours in the water, the divers became concerned about nightfall. Sunset was scheduled for around 6:50 p.m. No one had a strobe or a flashlight. The only comfort was that the wind was forecasted to calm down in the evening.

At about 3:45 p.m. the guide spotted a small boat. The group waved the sausage, screamed and blew a whistle as hard as they could, but the whistle was ineffective at signaling an upwind boat in the breeze. The boat did not see or hear them and headed back toward shore. Finally, it returned on another search leg, spotted the divers and took them aboard. At this point they were 3-4 miles offshore.

## Lessons

Around 80 percent of American recreational scuba divers make fewer than eight dives per year. This diver may be typical of the “vacation” diver: renting minimal dive gear and trusting others to ensure his safety. As this incident shows, our lives can hang in the balance. This diver now intends to take more responsibility for himself.

During this ordeal, if any of the divers had a signal mirror — a small, lightweight and simple tool (as shown in the photo) — they could have likely gotten the attention of a passing boat much sooner. To signal a boat, simply extend one arm and give a thumbs-up signal, lining up your thumb with the boat (or aircraft) that you want to signal. With your other hand, hold the mirror up to your eye and look through the hole in the middle at your thumb. Wiggle the mirror; when you see sunlight flash on your thumb, you'll know you are flashing at the boat or plane.

Modern, small, hand-held dive lights are quite powerful, even compared to those made five or 10 years ago. Every diver should carry a signal tube, also known as a surface marker buoy (SMB) or safety sausage. Never go into the sea without one. If you carry a signal tube and a bright dive light, then at night you can put the light inside the bottom of the tube to light up the whole tube like a giant lightsaber.

Many divers also carry a reel of braided nylon line, which allows deployment of the signal tube before ascent. The divers can reel their way up to 15 feet for a safety stop and hang under the tube. This alerts the crew aboard the dive boat (as well as other boats in the area) where divers are making safety stops, and it allows the dive boat crew to keep tabs on the divers' location if they are drifting. Reels can also prove useful if a diver is caught in a slight current and wants to remain in place. In an emergency such as this incident, tie the reel to a weight belt or integrated weights, and lower the weights down to the seafloor. Having a line that's at least three times as long as the water depth will reduce the bouncing of the weights on the bottom.

Even if you plan to rent your dive gear, DAN® recommends bringing your own emergency signalling equipment in case you find yourself adrift, hoping to be found before the sun sets.



Napier Aquarium NZ shell display

## 1,200 Square Feet Under the Sea

For a 24-hour view of one of the most vibrant coral reefs on Earth, book a room at the world's first underwater hotel By Michael Behar December 12, 2006

Bruce Jones has spent much of his career designing underwater toys for the rich and famous. The 50-year-old president of U.S. Submarines is best known for building ultraluxe custom subs, \$80-million vessels that feature private staterooms, paneled interiors made from exotic hardwoods, plush carpeting, and enough onboard oxygen to keep you and 10 friends breathing easy for three weeks of cruising at depths of nearly 1,000 feet. Now Jones is redirecting his expertise in undersea opulence toward the hotel industry. His plan: to open the Poseidon Mystery Island, the world's first major resort at the bottom of the ocean, by September 2008.

"When I was in high school, I was always writing letters to Jacques Cousteau and sketching underwater habitats," Jones recalls. In 2000, he took the first step toward the real thing, offering a reward to whom ever found the best location for his future undersea playground.

*"Each module is attached to the hotel's spine with a water-tight double seal and can be detached for maintenance. Peter Bollinger"*



I've got a lot of friends in the submersible business who are also scuba divers," he says. "So I put the word out that if someone came up with the perfect spot, we'd pay them \$10,000." A business associate and avid diver suggested a reef off the Bahamian island of Eleuthera and collected his reward. But Jones eventually ran into trouble negotiating a price for the site with its American owners. After a year of fruitless back-and-forth, he decided to set his sights farther afield, on Fiji.

Jones is not the first to pursue an aquatic hotel. That credit goes to Jules' Undersea Lodge (named, of course, for seafaring scribe Jules Verne), a little bungalow at the bottom of the Emerald Lagoon in Key Largo, Florida. Opened in 1986, Jules' is more akin to a sunken RV than a full-fledged resort. Up to six guests can rent the two-bedroom, one-bath undersea retreat for the night, but scuba certification is mandatory; the front door is 21 feet underwater.

In Dubai, where hotels are prized for ostentation, a group of commercial developers is hyping the creation of the \$500-million Hydropolis Undersea Resort. A sprawling 1.1-million-square-foot complex-with lavish suites, a ballroom, a shopping mall and a missile-defense system to ward off terrorists-Hydropolis is an ambitious vision of luxury at 60 feet underwater. As of press time, though, the project had stalled in the preconstruction phase. According to Mansoor Ijaz, deputy chairman of the board for Crescent Hydropolis Resorts, LLC, Hydropolis is on hold pending "land acquisition" and probably won't be finished before the current opening date, set for 2008.

Money, naturally, is the first hurdle facing any large-scale endeavor. In the case of Poseidon, private investors and an American merchant bank have anted up nearly all of the \$105 million that Jones needs to complete the resort. Clearly, they are optimistic that Poseidon can lure enough celebrity guests and high rollers to be a financial success. Meanwhile, Jones has inked a deal with the owners of a privately held South Pacific island. If all goes well with construction, the Poseidon Mystery Island will soon be submerged in 40 feet of water in a 5,000-acre coral lagoon near the coast of a narrow, 225-acre isle located in northeastern Fiji.

### ROOM WITH A VIEW

Jones designed Poseidon to provide guests-scuba aficionados and landlubbers alike-with an all-inclusive vacation package: fine dining, stunning views of the surrounding lush coral habitat, and the opportunity to dive directly



from the hotel's airlock, a hatch that lets divers out but keeps the sea from flooding into the hotel. Once the resort opens, visitors staying in one of the 550-square-foot guest rooms will enjoy a 270-degree view of the vibrant coral reef and tropical fish, visible through floor-to-ceiling windows and illuminated by external flood lighting. Guests will access the hotel through two elevators. Because the interior pressure will be held at one atmosphere (the same pressure as onshore), they won't have to worry about getting decompression sickness. A Frisbee-shaped module at one end of the resort will house a kitchen, reception lounge and 3,000-square-foot rotating restaurant and bar. A second saucer will enclose a library, a conference room, a wedding chapel, a spa and the largest underwater accommodation in the world, the 1,200-square-foot "Nautilus" suite priced at \$15,000 a night. To ensure that guests always have a crystal-clear view of the teeming marine life, Poseidon will have an automatic window-cleaning system (barnacles, algae and other marine creatures cling to just about anything in the sea). High-powered water jets will glide along tracks mounted to the sides of the resort, spraying the windows with high-pressure seawater, filtered so as not to coat the acrylic with barnacle larvae or other critters—a mechanism modeled after the cleaning jets in an automated car wash.

If the windows of a guest module become damaged, or if the room requires other repairs, maintenance workers can detach it from the main body of the resort and bring it to the surface. To loosen the joint that connects each suite to Poseidon's "spine," workers will close the watertight doors separating the guest module from the spine and then pump the joint full of seawater. As the hydrostatic pressure increases inside the coupling, it will force the suite loose so that an overhead crane can hoist it out of the water.

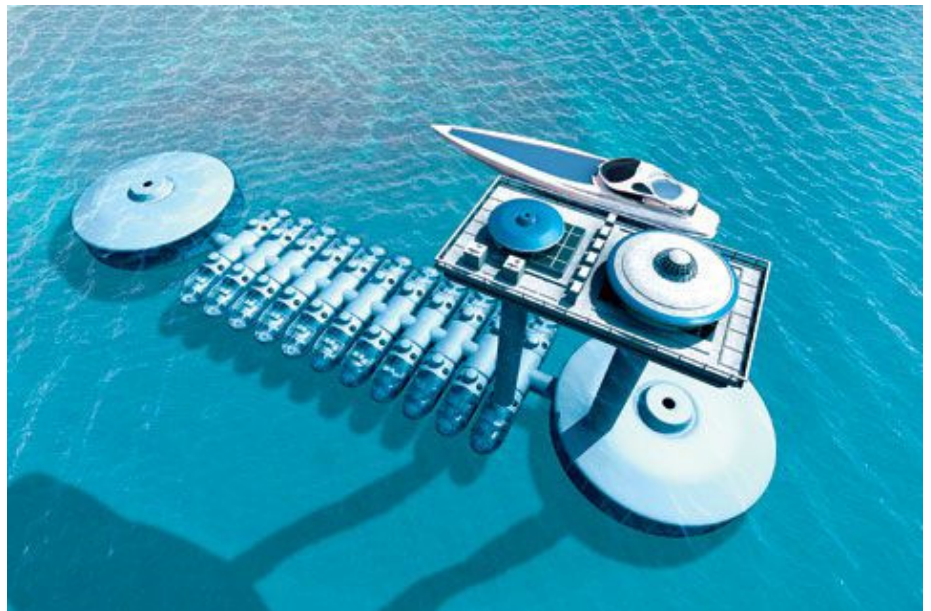
First, however, Bruce Jones must build the thing. To keep costs down, the entire structure will be assembled in a shipyard in Portland, Oregon, and transported by a heavy-lift ship to Fiji. Meanwhile, engineers will drive guidance pilings into the seafloor. The hotel will float off the ship in one piece, and divers will thread small metal rings, bolted to the hotel's exterior, onto the pilings. These pilings keep the structure aligned until divers can pin the hotel's steel legs to the reef. The whole structure is then ballasted until it sinks to the seabed.

The trickiest part of building Poseidon, Jones says, is acquiring the huge sheets of transparent acrylic required for the windows in the guest rooms and the restaurant and bar area. A few manufacturers could produce the acrylic in the sizes he needs, but the cost would bankrupt the project. So Jones has decided to fabricate it himself. Poseidon's five engineers, each a submarine designer with at least 13 years of experience working at U.S. Submarines, will design and build a specialized autoclave for forming both the curved four-inch-thick acrylic windows in each room suite and the floor-to-ceiling panes in the end modules.

Like so many other ambitious hotel-resort plans, Poseidon must overcome unenviable logistical hurdles before the first guest walks through the door. Other promising underwater projects have ground to a halt because of budget overruns and legal wrangling. Even funding and lagoon space isn't a surefire guarantee that Poseidon will ever be completed, although Jones's decision to pre-fab the hotel, rather than risk the vagaries of underwater construction, tips the odds in his favor. Finally, some industry analysts are skeptical that the pool of potential guests is large enough to keep the hotel afloat. But Jones is confident that he will be taking guest reservations for Poseidon—and that guests will pony up the \$15,000-per-person, per-week reservation fee—for a long time to come.

Each module is attached to the hotel's spine with a water-tight double seal and can be detached for maintenance.

The hotel, which will sit in about 40 feet of water, will boast individual suites, as well as a library, a wedding chapel and a restaurant. In addition to scuba diving, the guests will be able to cruise around the lagoon in either a 16-person submarine capable of 300-foot-depths, or learn to pilot a three-person Triton sub, which can reach 1,000 feet.





**undersea\_ss\_map.jpg**

The Poseidon Mystery Island is located in the Northern Lau group, in the north eastern section of Fiji.



Each individual suite will be 550 square feet large, will feature a Jacuzzi, and will be capped by four-inch-thick acrylic windows, which make up about 70 percent of the wall space. Fish feeders will fire food into the water to attract local wildlife. To prevent overfeeding, the system will be limited to a prescribed number of cartridges each day

**undersea\_ss\_island.jpg**

The 5,000-acre coral lagoon that surrounds the island reaches a depth of 90 feet.





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**Safe Diving All - remember the rules**

**Anyone got any trip reports? Have not seen one for sometime now!**