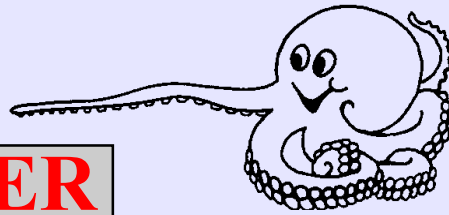


THE REEF SEEKER



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July - 2023



WHAT WE CAN LEARN FROM THE TITAN TRAGEDY

Let's start with this: Hindsight is 20/20 and it's easy for anyone to be a Monday-morning quarterback. (Or in this case, a beginning-of-July quarterback.) That being said . . .

As we now know, the *Titan* submersible was on a trip down to the *Titanic*, which is 12,500 feet deep. *Titan* apparently imploded an hour and forty-five minutes into the dive, at a depth of somewhere around 11,000 feet. All five of the expedition passengers died. But as the accident unfolded and in the days since, we have heard many stories of safety lapses, warnings ignored, possible design flaws, and other information that helps to give a fuller picture of events leading up to the fatal dive. And when you start looking at this bigger picture, there are takeaways that I think apply to scuba diving as well.

First of all, understand that the

implosion was not survivable. When I did my *Alvin* dive back in 1996, we were briefed on what would happen if there was some sort of leak or water intrusion at depth – we were “only” going to be 4,000 feet deep – and the short version was that you wouldn't survive but that it would be almost instantaneous.

A naval expert I heard interviewed said that in a case like this, the water rushes in at 1,500mph. That's not a typo: 1,500mph. The pressure at 11,000 feet is roughly 333atm or 4,900psi. So imagine something that weighs almost 5,000 pounds coming at you at 1,500mph. It's not survivable and it's unbelievably fast. The expert said the implosion happens in milliseconds and you are dead before your brain can even notice or process what's happening.

The two leading theories of what caused the implosion seem to all relate to what is essentially equipment failure. There are reports that the viewing port was not rated to *Titanic* depths and that was the weak point that failed. The other theory, and perhaps this is being more strongly suspected, is that there was a failure of the pressure hull, either because it wasn't built thick enough or because repeated dives stressed the structural integrity and what you essentially had was the equivalent of metal fa-

tigue in an airplane where the sub simply collapsed and broke apart under pressure. (There are also many voices saying that the carbon-fiber material used for the sub was inappropriate for the job.)

Another factor to consider is the structural design of *Titan*. Most of these deep-diving submersibles, and *Alvin* was certainly designed this way, have a sphere as the structural shape of the human-occupied areas. *Titan* was a cylinder. I'm not an engineer but a quick Google search yields numerous articles and references saying that a sphere is the strongest 3-D shape when dealing with pressurized vessels, and better than a cylinder.

The final thing to consider, and perhaps most applicable to diving situations, is the mindset of the people behind the project. There are stories of employees pointing out safety issues or perceived flaws who were ignored or fired. There were outside experts who suggested there were issues and their concerns were dismissed under the guise of innovation needs to work outside the envelope. There seemed to be an overall attitude of “Nothing bad has happened yet, so nothing bad will happen ever.”

James Cameron, who has done over 30 dives to the *Titanic* as well as went down the Challenger Deep and is an active member of the

submergence community, was interviewed on CNN and summed up the problems he saw with all of this in two words: Hubris and arrogance. The dictionary definition of hubris is “excessive pride or self-confidence.” Arrogance is defined as “an attitude of superiority manifested in an overbearing manner or in presumptuous claims or assumptions.” And it’s easy to see how those two traits alone can lead to problems. They frequently produce a response along the lines of, “We know what we’re doing so why don’t you mind your own business?”

In diving, we see this frequently. I can recount many times when I tried to persuade someone that maybe this dive wasn’t for them, they insisted they’d be fine and that I was over-reacting, and the end result was that one of my DMs has to tow them back in.

Perhaps the most direct diving parallel occurred back in 1995 and resulted in a double fatality. This was in the early days of tech diving which back then was generally defined as exceeding 130 feet &/ or going into deco. There was a local instructor who was an early adopter. Many of us thought he was a risk-taker and was approaching this much too cavalierly and we told him so. He dismissed our concerns in much the same way that the concerns about *Titan* were dismissed. Many of us thought that he was going to end up killing someone. We just didn’t think it would be his 14-year-old son and that he, too, would perish trying to rescue the child.

So I hope you can learn some valuable things from the *Titan* tragedy. We used to run an ad in *California Diving News* around the start of

summer that said, “When you go diving, there’s no piece of equipment to take with you more important than your brain.” We see too often that diving accidents happen because people make bad choices. “It won’t happen to me,” is not a remedy for things that go wrong. A small dose of humility – yes, I know that sounds strange coming from me – goes a long way.

The ocean can be an unforgiving mistress. But when you make smart choices, listen to others who offer you counsel, and remember that you never get hurt on a dive you don’t make, you’ll be around to come back for more.

MARVELOUS MALDIVES

I am somewhat surprised – stunned actually – that we still have some spots available on our Maldives trip in November. Admittedly, part of the issue might be that the trip encompasses Thanksgiving but when we booked it, this was the only week they had available that also gave us a shot at the annual Manta Aggregation that occurs in Baa Atoll. (Which would you rather experience: A dry over-

cooked turkey amongst feuding relatives, or the incredible sight of dozens and dozens and dozens of Manta Rays cavorting and flocking?) But in all seriousness, we really DO have three spots still available on our trip.

The first time I dove the Maldives, I wrote in my logbook “Visually overwhelming.” Especially if you’ve never dove the Indian Ocean before, not only is the fish life beyond abundant but you’ll also see many species you’ve never seen before. Truly amazing.

We love the boat as well. We’ve done all previous Maldives trips on the *Manthiri* under the watchful eyes of Moosa and Ali, the dive guides. They not only take good care of us, but the food’s great (served family style), we love that everything lives on the dhoni which is a second vessel from which all the diving takes place, and we really like that the max capacity on the *Manthiri* is 12 people.

So maybe re-check your calendar, think of whether you really want to spend another T-Giv with folks you may avoid the rest of the year and if this trip would work for you, give us a call at 310/652-4990 and snag one of those last spots.

2023-24 DIVING VACATIONS

July 10-23 • Yap

November 15-29 • Maldives

**March 18-22 • San Ignacio
(hugging gray whales)**



WHO WANTS TO HUG A WHALE?

We really enjoyed our trip to San Ignacio Lagoon this past February to go see and interact with the Gray Whales that winter there. So we thought we'd do it again.

What we didn't like this year – and there aren't any guarantees – was the weather. It was windy all the time we were there which cost us our first afternoon of going out in the pangas and made the other trips out less-than-stellar because the water was choppy. That made for a bouncy ride out, sometimes a wet ride back, and limited close encounters. (But we did see dozens and dozens of whales plus had a couple of great interactions.)

So we've decided we'll do it again but push it back a bit and hopefully get better weather. For 2024 we're scheduling for March 18-22. That's again a Monday-Friday (we liked that part a lot) where we'll fly in from LAX to Cabo (SJD) on Monday afternoon, overnight in the airport hotel, and then fly early Tuesday morning via small prop plane to the whale camp in San Ignacio. We'll have Tuesday afternoon, all day Wednesday and Thursday, and Friday morning to hug whales. We fly back to Cabo late Friday morning and can catch the afternoon flight back to LAX no problem.

I don't have final pricing yet but it looks like we'll be able to match

UPCOMING LOCAL DIVES & CLASSES				
DAY	DATE	BOAT/SITE	PLANNED DESTINATION	PRICE
Wed.	July 5	<i>Catalina Express</i>	Avalon Underwater Park	175
Thu.	6	--- CLASS ---	--- NAUI Nitrox Diver ---	95
Sat.	8	Redondo/Vets	Beach Diving	35
Thu.	Aug. 3	Redondo/Vets	••• Night Dive •••	35
Wed.	9	<i>Catalina Express</i>	Avalon Underwater Park	175
Sat.	12	Redondo/Vets	Navigation Made Easy	35
Wed.	16	--- CLASS ---	--- Tables & Computers ---	35
Thu.	Sept. 7	Redondo/Vets	••• Night Dive •••	35

the 2023 pricing of \$3,195. That includes the whale watching, meals in camp, double-occupancy glamping tent, the air flight to and from the camp (but not LAX-SJD), Mexican taxes, crew/staff tip, and hotel overnight on the way in.

And now I'll throw in a small wrinkle.

We're always a fan of small-ish groups. Last year, including me, we had 9 people which is exactly the maximum size for their larger panga. That meant we were always able to go out as a single group which, as a trip leader, I like. For 2024, I've already got people confirmed. The real question is whether we want to do more than 9 people. If we do, there are two options.

Option one is simply to do two pangas with half the group in one and half in the other. And we can likely keep the pangas in the same vicinity while whale watching which means I can get pictures of you hugging the whale no matter which one you're in. And I'll just bounce back and forth between pangas each time we go out so I get to spend some time with all of you and can get the good close-up pictures when you interact with the whales.

The other option is to limit ourselves to 9 but do a second group of 9 max and schedule it as back-

to-back groups so that when group 1 is leaving camp on March 22, group 2 is arriving. (Doing this would make the dates for the second group March 21-25.) I would simply stay in camp and wave goodbye to G-1 and welcome G-2.

So if you're interested in either option, let me know. We're firm on the March 18-22 dates and would only add the second group if there's enough interest. But it was quite interesting this year, despite the wind, and hopefully will be even better next year. If you want to get your name on our list - no need for a firm commitment at this point – give me a call at 310/652-4990.

POSTAGE RATE HIKE

Be aware that the cost of mailing a letter (like with a deposit check for a Reef Seekers trip) is going up as of July 9. The new rates will be \$0.66 for a domestic letter and \$0.51 for a domestic postcard. A letter mailed to another country will go up to \$1.50. The additional-ounce rate remains at \$0.24. The good news is that your forever stamps will automatically cover the new rate. And if you'd like to save 5% on your postage (a whopping \$0.03/letter) go to your nearest Post Office and stock up on forever stamps at the current rate before the July 9 price increase.



DOMOIC ACID ISSUE

This is not a good time to be a hungry seal or sea lion.

Domoic acid is a neuro-toxin produced by an algae during harmful algae blooms. We are apparently in the midst of one right now. The issue is that the neuro-toxin gets consumed by small fish, like sardines and anchovies, and accumulates in them. Then those small fish get eaten by seals and sea

lions and that's when the havoc begins.

Domoic acid then attacks the brain and heart of the animals and can cause seizures &/or heart failure. When left untreated, it can cause permanent brain damage if it doesn't kill the animal outright. The toxin can eventually flush from the animal's system but, if it survives, it may leave behind permanent damage.

The good news is that there are treatments available but the bad news is that marine mammal rescue centers are currently being overwhelmed with stranded and sick seals and sea lions. The algae produces the toxin when California waters get unusually warm and that's where we seem to be right now as an El Nino is setting up just

in time for the summer season.

If you see a beached/stranded animal, please don't approach them nor try to help. Instead, in L.A. County call the Marine Mammal Care Center rescue line at 800/399-4253. In Orange County, call the Pacific Marine Mammal Center rescue line at 949/494-3050. In Ventura and Santa Barbara, call Channels Island Marine & Wildlife Institute rescue line at 800/567-1505. In San Diego, you can contact Sea World at 800/541-7325. In all cases, tell them where you are and what you're observing and they'll take it from there. Remember too that seals and sea lions naturally haul out occasionally to rest, so not every animal on the beach is necessarily sick, but their presence should still be reported.

PICTURE PAGE - Red, White, & Blue fish

(All pix by Ken Kurtis © 2023)



Red-toothed Triggerfish
Indonesia



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Seahorse (yes, they're fish)
Bonaire



Indigo Hamlet
Belize



Frogfish
Australia



Red & white Parrtuffish
Socorro