

Dive Voluntourism

—a leap of faith

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DiVo is based in Australia. Its aim is to bring more recreational divers to active marine conservation and research participation. DiVo also collaborates with marine conservation and research groups to originate projects where divers can participate hands-on in marine conservation and studies and have a dive with a difference to make a difference.

Dreaming the dream...
Recognise this? You're back from a beautiful dive trip, wistfully recalling the simple life of thatched huts, bare feet and just diving. You know you should be clicking down the tottering email inbox. Instead, the mouse hovers over Google.

In my case, I searched "dive+volunteer". Part of it was Robinson Crusoe escapism—life after the corporate world where I could pursue my passion for diving, saving the oceans of the world in the process. But part of it was also that I was looking for a different type of dive from the usual recreational dive, short of becoming a marine biologist or commercial diver.

Google didn't throw up anyone in Asia or Australia doing this sort of thing, so I thought, I'd just start one.

So, what does a corporate warrior do to turn into an eco-warrior?

Living the dream...
First, set your own expectations and targets. If it is a passion, don't expect to make money. But you can't keep throwing money at it either, so I keep an eye on a stop-loss dollar threshold.

Not many understand why I do this if I don't make money. When

profit cause and making money out of it. Yet, answering this question involves going into personal detail about where I am financially, which I don't usually explain to friends let alone strangers! Getting DiVo's registration as a non-profit environmental organisation is an important step in establishing DiVo's credibility.

Second, buy a camper-van. If you are on the road 120 days out of 365 traversing the Australian



Reef Check Australia volunteers having fun with a serious message

potential collaborators ask me—what do I get out of this—I know exactly where they are coming from. They don't want entrepreneurial sharks latching onto their non-

coastline looking up conservation groups and causes, multiply that by \$80 per motel night, and you get the economics of buying a camper-van. I spent A\$3,888 (lucky



ELAINE KWEE

SURG President Bob Edgar at work maintaining plinths in an underwater trail at Solitary Islands



JEMINA STUART-SMITH

COUNTER-CLOCKWISE FROM LEFT: Reef Life Surveyor conducting a fish bioinventory survey; Elaine Kwee of DiVo; and her home away from home, Ivana the Tramp

Chinese number) buying one from a nice Canadian couple, gave *Ivan the Van* a sex change to *Ivana the Tramp*, and since last August, notched up 22,000km with *Ivana*. In order to contextualise 22,000km: Sydney to London is around 17,000km. I sleep in *Ivana* while on the road, and every morning, I run and swim on a different beach.

Third, look up strangers and say, hello, I want to do this, will you work with me? I started from scratch looking up individuals who were involved in the pioneering early days of dive voluntourism. I was surprised by the kindness of strangers.

Pete Faulkner, the current chairman of Coral Cay Conservation (a UK-based organisation pioneering reef research by volunteers for 20 years), happened to live in Queensland, so I went up to see him. He also turned out to be my Reef Check

Australia trainer. Through Pete, I got to learn about Tony Fontes, a PADI instructor trainer who also co-founded the Order of the Underwater Heroes or OUCH, a dive volunteer group in Queensland, and as a result I am a graduate of Tony's instructor boot camp.

A nice dive agent in Cairns, Dirk Werner-Lutrop of Diversion Travel, introduced me to John and Linda Rumney who are pioneers in marine research tourism through the famous liveboard, *Undersea Explorer*. Through them, I learnt a lot about operating in the eco-diving world of funding science and documentary-making through tourism.

The young manager of a marine research station on Orpheus Island, Haley Burgess, put me in touch with her PhD supervisor, Pete Woods, an authority on marine research tourism who fortuitously

turned out to be a good friend of the Rumneys.

When I looked up SURG in Coffs Harbour, the president, Bob Edgar, was embarking on a project on the standardisation of volunteer data collection protocols in New South Wales (NSW), and through Bob, I got to learn about community watch groups in NSW.

But the best way to get to know people in dive volunteering is to be a dive volunteer. I am involved in many dive

volunteer groups: Reef Check Australia based in Queensland, URG Sydney, SURG in Coffs Harbour NSW, Reef Life Survey a pan-national network, BURG in Byron Bay NSW, PURG in Port Macquarie NSW—URG, by the way, stands for underwater research group, a moniker unique to New South Wales dive clubs who also do research and conservation. This is only way to build up contacts and trust. You cannot desktop these things.

By the way, just trawling the net—like I did in the beginning—will be an inefficient exercise. A dive volunteer group may not have a website, or if it does have one, it probably would have been set up for its members in-the-know and not be search engine-optimised. Still, search engine-optimisation (or SEO, for those who have been there and done it) is an art, not a science.

Just when you thought it all sussed by capturing keywords relating to “dive”, “Australia”, “Great Barrier Reef”, “marine conservation” and whatever else that the SEO mining experts tell you, you start to learn that maybe, your target audience responds better to “eco”.

There were a fair number of no-email replies, too. Generally, environmental and community groups were responsive. But bigger institutions operating within more formal parameters probably could not engage on volunteer initiatives for various reasons.

The reality of dive volunteering

When I started DiVo, I hadn't done any dive volunteering before. I just thought I would be pretty good at it. Good buoyancy, able to multi-task, frog kicker with reef friendly dive technique, PADI pro. What else would be needed? Actually, the reality is this—the actual diving.

My first impression of volunteer diving was that you spent a lot of time hovering upside down. My initiation into the world of volunteer diving was at a Reef Check Australia training camp at the James Cook University Research Station at Orpheus Island off Townsville. There, we first learnt reef-friendly diving practices.

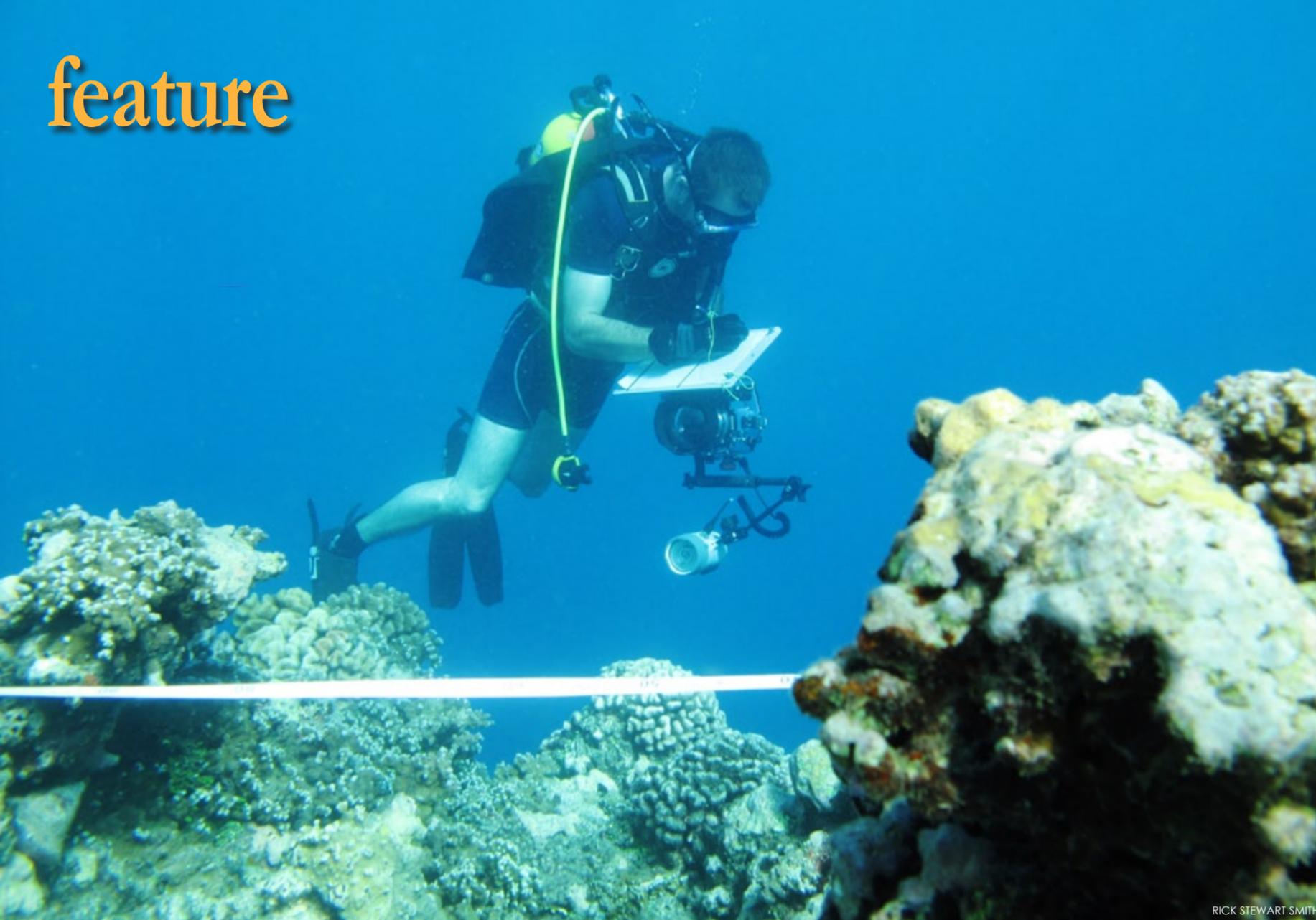
The classic underwater posture was fins up to avoid contact with the coral, while writing on a slate upside down. Given that surveys can be in the shallows of five meters or less, try doing this while combatting a surge.

Reef Check Australia usually does two transects.

One buddy team would do a substrate survey, where a diver would move a plumbline along the transect while the other diver notes the type of substrate underneath. The other buddy pair would do a count of specific invertebrates (such as sea cucumbers, banded coral shrimp, lobster, urchins, starfish, giant clams, triton and trochus shells) swimming along the transect in an S-curve.

Some dive volunteer groups—such as





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some of the URG groups and Reef Life Survey—do fish and invertebrates bioinventory surveys. The simpler surveys entail learning, such as the top 50 species typically found in the local dive waters.

The more demanding surveys—Reef Life Surveys are very detailed in taxonomy—may require familiarity with the entire fish identification book. The actual survey itself involves a swim along the transect line noting fish and estimating abundance, sometimes even size—easier said than done.

This takes practice, experience and a mentor-buddy relationship with a more experienced survey buddy. After the first few surveys, one would generally recognise the majority of fish and inverts spe-

cies underwater, and one also gets the knack of estimating size and abundance.

It helps to perma-ink your underwater slate with length markings (2.5cm, 5cm, 10cm, etc). If one cannot identify a fish immediately, one notes characteristics and tries to get a photo.

The reality is a lot of multi-tasking. While identifying fish, counting, sizing, one also juggles a slate, grabs a camera, chases a fish, tries not to lose the transect line (easy when vis is under 5m), then looks for one's positively buoyant pencil floating behind one's neck, making sure the pencil string or camera bungee hasn't tangled around coral or remnant fishing line. I have actually lost a wide-angled lens in one survey, where, with all that

multi-tasking, I didn't notice the missing lens until I was out of the water.

Some surveys also involve photo and video quadrats. Good quality quadrats entail no shadow or overexposure, getting a clear shot of the substrate with no backscatter. In challenging surge conditions with poor vis, not easy!

In a variant of photo surveys, Project Manta, a University of Queensland project started in 2007 to look into the movement and habits of manta rays on the east coast of Australia, runs volunteer expeditions with Earthwatch Institute where the volunteers take belly shots of manta rays. Manta rays have a distinct pattern on their bellies, and the Project Manta scientists have built up a photo ID



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THIS PAGE: Reef Life Surveyors conducting a fish bioinventory survey

database of about 600 individual manta rays. This has enabled them to track the movement of mantas over the east coast from the Great Barrier Reef down to New South Wales. The volunteers on Project Manta expeditions also help with plankton sampling. For more, see: www.divevoluntourism.com/project-manta-co-opting-passion-science and www.divevoluntourism.com/blogs/project-manta-real-scoop-behind-scenes.

Volunteer dives are not recreational dives. The dives often take place in recreational dives spots, and happily, most volunteer dives are enjoyable, and one does get time to take in the surrounds. However, some survey dives are at sites that are identified as priority sites regardless of underwater scenery, and one may have to contend with more challenging than normal entry or exit points clambering in and out of rocks and beaches. And if the wind conditions aren't favourable, one may have to cancel the dive rather than merely diverting to a different spot that is dive-able but doesn't need surveying.

Après survey

For the Reef Check Australia training module, we were picked up from shore by the James Cook University research vessel and delivered onto Orpheus Island 45 minutes later. Half day was in classroom learning about coral substrate ID, and then, we were in the water doing a check out dive.

The JCU Research Station on Orpheus Island, by the way, is not usually accessible to divers. Usually, one can only dive on it if one is registered on the JCU dive register, which has to satisfy various occupational health and safety criteria, namely rescue diver or higher, a commercial dive medical, current O₂ certificate and current Emergency First Aid. Reef Check Australia managed to get an exemption for its training modules, with a minimum PADI advanced diver certification.

The research station has exceptional facilities. It is well designed with well thought out eco-friendly features, such as natural rainwater showers, clean composting toilets, renewable energy sourc-



ELAINE KWEE

Project Manta volunteers collecting plankton samples and ocean data

DiVo

Who are the volunteer divers?

Generally, volunteer divers are pretty advanced in diving skills. This is not because volunteer dive groups require minimum diving certification—most do not unless there is university involvement, in which case certain occupational health and safety requirements apply. More pertinently, divers tend to gravitate towards volunteer diving because they want to go beyond the usual recreational diving to test their skills or improve their marine knowledge.

Divers usually get to this point after they have dived many dives in many environments. For instance, Living Seas in Singapore leads its club of Global Underwater Explorer divers in thresher shark survey trips to the Philippines, so as to have an outlet for its members to utilise their special buoyancy training.

Usually, volunteer divers are conservation-minded. In Australia, many are drawn from the local

Is the data collected by volunteers being applied to a useful end?

All volunteer groups apply the data to either a database or a study that will be publicly accessible. It is not data for the sake of data. Some databases seek to establish a baseline for comparing the state of the oceans either geographically (what we call spatial) or over time (temporally).

Some data is for specific projects (such as Project Manta). For instance, Reef Check Australia's data goes to its Reef Health Database, freely accessible to anyone via Reef Check Australia's website. The data is also shared with Reef Check International for global comparisons of reef health. Reef Life Survey's data is also publicly accessible in a national database of fishes and invertebrates.

Reef Life Survey's data has already been used, amongst other things, to assess the effectiveness of management policies in marine protected areas, impact of fish farms and urban pollution on coastal ecological communities, and contribute to the zoning and management planning for reserves such as Lord Howe Island and the Cod Grounds Commonwealth Marine Reserve.

In recent years, the National Marine Science Centre of Southern Cross University in NSW did a study on whether data collected by voluntary organisations could be used by marine parks and other government agencies. The study concluded that volunteer groups could provide important information to marine managers if specific projects were designed in consultation with the managers and professional scientists.

But the volunteers should be trained in certain protocols if they are to provide reliable data. Coral Cay Conservation, for instance, runs their camps with a minimum time commitment because they recognise that the training alone can take weeks. Reef Check Australia runs four-day training modules before volun-

es. In addition, participants get professional kitchen facilities worthy of a hotel and generous dorm facilities—not to mention the camaraderie of barbecues by the waves lapping on the beach, star watching on wraparound verandas of the research station.

It was a nice thought that a few hundred meters away on the other side of Orpheus Island, well-heeled tourists were paying a lot more to stay in an exclusive resort but nonetheless experiencing no more than what we were while enjoying

what Orpheus Island had to offer.

Project Manta had comfortable eco-tent dorm style sharing and food provided under the generous auspices of Lady Elliot Eco-Resort.

Not all volunteer surveys are resort style, of course. With the local survey dives, one may spend half a day diving off a local dive site with a survey buddy and then going home. Or, the local dive group may be limited in funding and can only put up their volunteers in caravan park cabins. But you get great camara-

derie amongst advanced divers with a shared interest, and lots of learning during the mentor-buddy data entering/verification process.

With Reef Life Survey for instance, we would spend the afternoon after the dive comparing data sheets and looking up fish ID pictures, before adjourning for dinner as a team. At the end of a weekend survey, one has made a new bunch of friends who will informally band together for surveys every now and then.

community, and they want to do something for their environment. However, some (myself included) will take the time and expense to travel out to these dives because it involves a higher skill of diving for a good cause.

Sometimes they are avid photographers who want to do something constructive with their images such as archiving them in a publicly accessible database.



ELAINE KWEE

Pete Faulkner, Reef Check Australia trainer and current chairman of Coral Cay Conservation, at Orpheus Island Research Station

teers can start surveying. Reef Life Survey's training in fish bioinventory is recognised to be very rigorous and uses an ongoing mentorship model of training.

Bob Edgar, President of SURG, is also project manager of a program commissioned by a NSW government agency to build capacity in volunteer under-

water divers and develop standardised data collection and training protocols for underwater research groups in NSW.

Second, we know our marine life more. It's like walking into a museum where everything is "nice" and "pretty", versus being armed with knowledge and history of what you are looking at. It adds a whole meaningfulness to the experience.

Third, we get involved in a community of divers that really do care about the oceans that we take so much out of. The grassroots culture in Australia—has to be experienced to be understood. The emphasis of Coastcare groups is to foster education and action.

Fourth, we get to experience adventure diving. We become better divers able to multi-task underwater with an enhanced awareness of reef-friendly diving practices, able to operate in less than ideal dive conditions of poor vis, surge and current. These skills will develop with practice, but those interested in a taster of what's involved can also sign up for the two day PADI Scientific Diver course, which will teach dive techniques such as setting up underwater transects and grid, safe diving practices and operating in poor visibility.

ing to commit to a sabbatical or career switch. Remember, your dive with a difference can also make a difference supporting conservation and ocean-watch efforts.

Elaine Kwee is an ex-corporate lawyer who established the non-profit environmental organisation, DiVo Dive Voluntourism. DiVo has a website www.diovodive.com which gives information on the activities of marine conservation and research groups who work with volunteers.

Kwee was trained as a lawyer and worked in England, Hong Kong, Australia and Singapore. In her last role between 2003 and 2010, Kwee was General Counsel at PSA International, one of the world's two largest global port operators with 28 ports in 16 countries.

While Kwee was headquartered in Singapore, she had a portfolio, transaction negotiations and a global team that entailed frequent international travel. Fortuitously, this often brought her near the sea at exotic locales such as Panama Canal, Tangier, Gujerat and Turkey.

Elaine is now pursuing a second career in promoting hands-on dive volunteer activities amongst recreational divers through DiVo. She became a PADI instructor in February 2011 and is now a full-time social entrepreneur with DiVo.

The more sophisticated the study or survey, the more training you need. Scientists from universities and research organisations understandably can be reluctant to take on untrained volunteers. If scientists are serious about publishing, they have to be careful of the integrity of data collection. The universities are also wary about occupational health and safety regulations which require scientists who dive as part of their job to satisfy commercial diver criteria.

Nonetheless, there are scientists willing to involve volunteers such as Project Manta, based out of University of Queensland. Most of the activities are suited to untrained volunteers such as taking belly shots of mantas for the ID database, trawling for plankton.

So, what do we get out of volunteer diving? First, a new dimension in diving. Sometimes, buddies kid me that I missed seeing a big pelagic because I was too busy looking at a bit of coral or smaller fish. It is like visiting a country before and after you've learnt its native language. Suddenly, a whole different dimension

Call to Action

Ready for a dive with a difference? I have given enough information and contacts for you to get started right away. You can also check out the DiVo website, which posts updates of new activities and blogs on volunteer diving. You don't have to be time- or money-rich to get involved in volunteer diving.

DiVo organises trips and gives information on volunteer diving activities, specifically targeted at the recreational diver who simply wants a dive with a difference without hav-



Reef Life volunteer processing samples in the lab



Project Manta had comfortable eco-tent dorm style sharing and food provided under the generous auspices of Lady Elliot Eco-Resort

