

SDFSFA Newsletter – July/August 2022

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SCUBA DIVERS FEDERATION OF SA, Inc.

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Introducing the Patron to the Scuba Divers Federation of South Australia



Dr. Richard Harris!

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The SDFSFA Patron!

The Scuba Divers Federation of South Australia is delighted to announce that Dr. Richard Harris (Dr. Harry) has kindly agreed to serve as Patron for the SDFSFA.

As many of you know, Dr. Harry is an avid and accomplished cave diver who has explored cave systems in South Australia, Western Australia, New Zealand and many other locations. He is well known internationally for his pivotal role in the 2018 rescue of 12 children and their coach in the Tham Luang Nang Non cave system in Thailand. In recognition of their service, compassion and selfless professionalism during that crisis, he and his dive partner Craig Challen, were awarded the Australian of the Year honours in 2019.

In October 2021, we invited Dr. Harry to present the first Lifetime Membership awards to three outstanding supporters of the SDFSFA and the South Australian diving community. At the time, he recalled how much he felt he owed to the diving community here and that he would like to give something back.

The SDFSFA Committee reflected that having an eminent person serve as Patron to the Federation would bring both greater recognition and gravitas to our work as the peak body for divers, free divers and snorkellers across the State. We asked Dr. Harry whether he would be willing to take on this role, recognising of course his many other commitments. To our great delight, it took him no time at all to accept!



In future, all SDFSFA communications will include reference to Dr. Harry as our Patron, and we hope to be able to call on him, as his time permits, to make presentations at special events and to champion major projects we undertake.

Dr. Harry's support for the SDFSFA will be of great value to our work, our members and to the South Australian dive community in general.

Science Alive 2022, 6-7 August

It's back! And the SDFSFA will be there once again. Come down to the Adelaide Showgrounds to visit us, Experiencing Marine Sanctuaries, the Marine Discovery Centre, and other champions of the South Australian marine scene (not to mention the many other amazing presentations of science and technology, from snakes to robots!) Drop by our booth to say Hi, and put your name in for a chance to **win a Try Dive for you or a mate, courtesy of Adelaide Scuba!**

SDFSFA COMMITTEE BUSINESS

Tony Leggatt, SDFSFA President, has been invited to, and is participating on, a Department of Infrastructure and Transport (DIT) working group on improvements to Rapid Bay. We will keep members informed of progress.

The SDFSFA Annual General Meeting, including the election of the 2022-23 governing Committee, will be held **10 August, starting at 7pm**, at the Arab Steed Hotel, 241 Hutt St (corner of Hutt and Gilles), Adelaide. (First floor meeting room, enter via the stairs at the back of the bistro). Please let us know at info@sdfsfa.net if you intend to join us – and we hope you do! We will be presenting at

that time the annual report on progress on our Strategic Plan 2020-2025. We hope the membership will be pleased with the excellent progress made to date, and provide input on next steps.

The first meeting of the 2022-23 Committee will be 24 August at the Arab Steed, 7pm-9pm.

NEWS from SHOPS and CLUBS

Scuba Courses (Mount Barker Rd, Adelaide Hills) has bought **The Scuba Clinic** on Marion Road. Simon, the owner, reports that they will be doing gear servicing and plan to put in a compressor for air fills, as well as possibly setting up a cylinder testing station in the next few months. For more information, contact simon@scubacourses.com.au.

Diving Adelaide has advised us that they expect to run annual dive instructor courses for those interested in becoming PADI instructors. The minimum requirements to do the course are a minimum of 100 logged dives and PADI Divemaster certification (or equivalent).

The **South Australian Archaeology Society** (SAAS)'s Facebook page now has almost 900 followers. That marks about a 50% increase in numbers in the past year. The blog section of our [website](#) holds six posts on maritime archaeology, with more to come. Our library is available to the public. It is based at the Port Environment Centre, 27 North Parade, Port Adelaide. The library is undergoing a review to improve it. The centre is open to the public Wed to Fri, 10am to 3pm, and the second Sunday of the month, 10am to 2pm. The library is curated by the Steve Reynolds & Mark Pierson from the Marine Life Society of SA. It comprises of items donated from a number of sources, plus some items from the MLSSA library. Details of items in the library can be found at <https://stevereynolds.wixsite.com/website/post/south-australian-archaeology-society-public-library>. Brian Morrison has donated a large part of the Temme Collection to us. The Temme Collection is a 28-volume series of research notes relating to shipwrecks on South Australian coasts from 1836-1990. Compiled by Ronald Temme, the research notes comprise copies of mostly newspaper reports, occasional articles from magazines and books, and extracts from official documents related to shipwrecks and shipping incidents. Visit <https://stevereynolds.wixsite.com/website/post/we-now-have-some-files-from-the-temme-collection> for more details. And contact saarchsociety@gmail.com to make any enquiries.

Scuba Divers Federation of Victoria (SDFV) was revamped late last year after a COVID-catalysed lull time. At present, there are seven member clubs, and a few key movers. An open on-line SDFV General Meeting was held in June. It was largely dedicated to a presentation about whale entanglement and the continuing plight of the southern right whale from the Victorian government department charged with researching and protecting them. Bi-monthly meetings will be held at 7.30pm Melbourne time on the 1st Tuesday of each second (even) month. The SDFV website can be found at <https://www.sdfv.org.au/>.

CONGRATULATIONS TO...

- Damian Bishop and Daniel Moyle, two newly certified PADI Dive instructors, from Diving Adelaide, and Chun Bee and Mia Vandergoot, who have completed the IDC Staff instructor component on their way to achieving Master Instructor qualifications.

- Lindl Lawton, the long serving Senior Curator at the South Australian Maritime Museum on her recent farewell from the museum.
- Dr. Richard Harris on having his photo from Tank Cave published in The Australian newspaper's Weekend Magazine
- David Strike on the recent release of his Amazon book "Counterstrike & Other Musings".
- Rudie Kuitert and his son Steven from Aquatic Photographic on the recent release of their joint book "Marine Fauna of Port Phillip Bay Identification Guide".
- Melody Horrill on the recent publication of her book "A Dolphin Called Jock".
- Brad Duncan who got to do a presentation on Australian maritime heritage to the UNESCO Round table Panel Discussion at the Ikuwa Conference in Helsinki, Finland last month.
- The Australasian Institute for Maritime Archaeology (AIMA) which is celebrating its 40th anniversary this year.
- The Maritime Archaeology Program at Flinders University which is celebrating its 20th anniversary this year.
- Associate Professor Jonathan Benjamin, Maritime Archaeology Technical Officer Hiro Yoshida and Associate Professor Wendy van Duivenvoorde from Flinders University's Maritime Archaeology Program on their recent teaching award for innovation in field-based teaching and development of the university's first formal micro-credential MICR-PSDC Professional Scientific Diver.
- The producers of ABC TV's [Southern Ocean Live](#) and Sheree Marris on her participation in the documentary.
- Ken Thongpila on the re-opening of his store Macro Mode at the new address of 19 Systrum Street, Ultimo (Sydney) NSW. It is packed with goodies for all levels of underwater photographers in Australia.

STEVE'S SCIENCE STORIES for the month,

By Steve Reynolds

CORAL RESEARCH

David Doubilet's image in the Wildlife Photographer of the Year exhibition showed him holding a photo of a coral outcrop, taken years earlier, that he was comparing with how it looked now. The current view of the coral outcrop was very disappointing, with the coral having much deteriorated. It has been estimated that about 1/3 of the world's corals are currently under threat of extinction due to climate change. Researchers at Curtin University, however, were happy to find a "lost" species of coral. They say that the hard coral *Plesiastrea peroni* had been hidden for more than 50 years. They found that *Plesiastrea versipora* was actually hiding *Plesiastrea peroni*. This is explained a little further below – see "TAXON NEWS - TAXON SPLIT FOR HARD CORAL" -- *Plesiastrea versipora* is widespread in the Indo-Pacific Ocean. *Plesiastrea peroni* is found north of the Tropic of Capricorn in Australia and across the Indo-Pacific. GBRMPA (the Great Barrier Reef Marine Park Authority) report that 91% of reefs surveyed on the 2200km -long Great Barrier Reef experienced bleaching over summer. The Director of the Climate Council says that the reef is "in serious trouble".

PLASTIC WASTE RESEARCH

INSECT LARVAE OFFER NEW HOPE FOR PLASTIC RECYCLING

According to ABC News, there is a worm-like creature called *Zophobas morio* that eats polystyrene. It is thought that these polystyrene-eating creatures, dubbed 'superworms', may help to develop new ways to dispose of waste plastic. It is said to be a bacterial enzyme in their gut that enables the worms to eat through polystyrene. They are not worms, however, but the insect larvae of the darkling beetle. Visit <https://www.abc.net.au/news/2022-06-10/qld-polystyrene-eating-superworms-research-recycling-waste/101132574> for more details.

COASTAL PLASTIC POLLUTION HAS DECREASED

Meanwhile, CSIRO research shows that "Australian coastal plastic pollution has decreased by 29%". Researchers found "that there was on average 29% less plastic on Australian beaches than in 2013 when similar surveys were conducted." Having said that, the CSIRO's Chief Executive said "While we still have a long way to go, and the technical challenges are enormous, we can win."

MICROPLASTICS HAVE FALLEN IN SNOW IN ANTARCTICA

A NZ study in Antarctica, however, found that microplastics has fallen in snow there. It is thought that it mostly came from products used at local scientific research stations. I just read in The Advertiser's SA Weekend that, according to the book "537 Days of Winter" by David Knoff, the Australian team in Antarctica spent almost 2 years (537 days) in lockdown at Davis Station (2020-2021).

MICROPLASTICS SHOWING UP IN FOOD SUPPLIES

Researchers at Flinders University say that "Microplastics are showing up in human food supplies". They have been found in blue mussels and may be occurring in fish and seafood from SA waters. Microplastics may affect human health. They may also cause negative effects such as stunted growth in sea creatures. Microplastic levels are higher closer to larger towns. They are, for example, 4 times higher at Semaphore than what they are at Ceduna.

PLASTIC WASTE CAN BE TURNED INTO ENERGY

Overseas technology called 'plasma gasification' is available to turn plastic waste into sustainable energy. There is now a proposal by Australian Waste to Energy to use that technology in South Australia. They can turn previously unrecyclable waste into a gas capable of turning gas and steam carbines, or even creating hydrogen. It now rests with the new Federal Labor Government to commit to this 'new' technology (which has been used overseas for a number of years).

PLASTIC FREE JULY

Meanwhile, the City of Marion is holding Plastic Free July this month. You can join their waste education officer on Tuesday 5th July, 6pm - 7pm, at the Cove Civic Centre to find out more about Plastic Free July and learn easy, practical ways to replace single-use plastic items from your everyday life with reusable and more sustainable options. Seats are limited, so you need to **register!** Attendees go into the draw to win a worm farm.

LEGISLATION TO REDUCE PLASTIC PACKAGING BY 25%

Meanwhile, according to the web page found at

https://www.washingtonpost.com/national/california-bill-would-reduce-single-use-plastic-products-25percent/2022/06/17/722fe6ea-ee7d-11ec-9f90-79df1fb28296_story.html, “An ambitious proposal by Californian lawmakers would legislate a 25% reduction in plastic packaging, forcing companies to cut plastic across products like shampoo bottles and food wrappers.”

PLASTIC AND OIL COMBINATION

According to the web page found at [https://www.nbc15.com/2022/06/15/scientists-warn-new-ocean-pollution-threat-called-](https://www.nbc15.com/2022/06/15/scientists-warn-new-ocean-pollution-threat-called-plastitar/?fbclid=IwAR2CK8B8ERpgGP38DtwLCjruKjsDFE9gF4BX77o_XGBIJJaRldUTXxIhIzhY)

[plastitar/?fbclid=IwAR2CK8B8ERpgGP38DtwLCjruKjsDFE9gF4BX77o_XGBIJJaRldUTXxIhIzhY](https://www.nbc15.com/2022/06/15/scientists-warn-new-ocean-pollution-threat-called-plastitar/?fbclid=IwAR2CK8B8ERpgGP38DtwLCjruKjsDFE9gF4BX77o_XGBIJJaRldUTXxIhIzhY),

“Scientists warn of new ocean pollution threat called ‘plastitar’. They say that oil and microplastics are two forms of ocean pollution that are joining together to form a sort of super pollution.

Peter Roopnarine from the California Academy of Sciences said that they are finding plastics and microplastics present everywhere and they are a significant threat to marine life and the coastal environment. They are finding them in high concentrations in the open ocean, but researchers now believe that plastics are combining with oil to create a super pollution. A “team on the Canary Islands documented dangerous microplastics embedded in oily tar balls created from spills or oil leaking from ships or pipelines. It’s a combination being dubbed “plastitar”. Peter Roopnarine said that the micro oil spills are common around the world.

SHARK RESEARCH

WOBBEGONG RESEARCH

Marine Life Society of SA member, Chris Iwanicki recently approached shark researcher Charlie Huveneers regarding wobbegong sharks. “The pictures attached appear to be the same individual as (they have) comparable markings on (the) head and barbels. (They) are taken from movie footage (taken) three years apart at the same location (about 50 metres apart) during 2011 and 2014 at approximately the same time. Comparing the movie footage, I am convinced it is the same shark. (Being) unaware of the movement habits or interest in this, (I) contacted Steve Reynolds at (the) Marine Life Society of SA and others to inquire about someone who might (know?). Steve advised (me) that maybe you would and seeing your page on the Flinders Uni site suggests this (is the case). I know last year some group from Flinders Uni on a boat were setting up tracking stations to get pings of tagged sharks but (I) don’t really know if this is of interest to them without a tag. I do have the exact dates at home as the original files are dated. (I) am guessing the (wobbegong filmed in) 2011 is quite young. Please do not hesitate to contact me if you require any further information.” Charlie’s reply to Chris was, “It isn’t unusual for wobbegongs to remain within the same area for several years (see attached paper).” The attached paper was “Born to be free? Assessing the viability of releasing captive-bred wobbegongs to restock depleted populations” by Kathryn A. Lee, Charlie Huveneers, Victor Peddemors, Andrew Boomer and Robert G. Harcourt.

According to the ‘Discussion’, “captive-bred wobbegong sharks were able to assimilate into the wild, with some individuals exhibiting medium- to long-term residency at the release site (up to 206 days), prior to permanent emigration from the area. Some of the sharks that left the area were subsequently detected 12 km south of the release site, with one shark being detected there two and a half years after being released.” According to the ‘Conclusions’, “In this study, we have shown that

released captive-bred sharks can successfully forage, avoid predators, and inhabit areas populated by wild wobbegongs. Although the slow life history characteristics for most elasmobranchs may preclude large-scale restocking, we have demonstrated that for some species successfully kept in captivity there may be the opportunity to contribute to the conservation measures. While restocking of sharks per se is unlikely to be effective in the absence of other measures, as has been shown in critically endangered terrestrial species, the release of captive-bred elasmobranchs has the potential to be a valuable conservation tool." The full paper can be found at <https://www.frontiersin.org/articles/10.3389/fmars.2015.00018/full>

GREY NURSE SHARK POPULATION RESEARCH

It has been suggested that more research into Grey nurse shark populations is needed despite Craig Taylor saying that he has been seeing "more of them than ever before". He believed their population was on the rise after counting dozens at Bass Point, NSW over the past 12 months. Conservation biologist Adam Stow, however, said the species remained under threat of extinction. He is an associate professor in the school of natural sciences at Macquarie University in Sydney. He has been studying the grey nurse shark for nearly 20 years.

"What the grey nurse shark tends to do is move up and down the coast on a yearly basis and they stop at particular aggregation sites up and down the east coast," he said. "Even if you do see fluctuations like an increase in the numbers of grey nurse sites at particular aggregation sites, it's not necessarily an indication that the population at large is growing. We need to keep a very close eye on the grey nurse shark because it's very much at risk."

Aggregation sites are known gathering points for the sharks and are listed as "critical habitat" by the NSW Department of Primary Industries (DPI).

According to the report at <https://www.msn.com/en-au/news/australia/grey-nurse-sharks-thriving-at-popular-dive-site-but-more-research-needed-into-critically-endangered-species/ar-AAXQcXU?bk=1&ocid=msedgdhp&pc=U531&cvid=40141c0acf894ebaad84fab113b1a61f>, "Bass Point was removed as a critical habitat site in 2013, but its rocky gutters and underwater caves continue to attract the shelter-seeking sharks. Mr Stow said it was important to continue to evaluate and monitor all the existing and potential aggregation sites to understand the recovery of the species."

He said there also needed to be more research into the impact of climate change on their movements. "There are reasonably long-term shifts in climate, we're seeing it at the moment, where we're going through a La Nina phase. So, these sorts of changes in the environment could possibly influence the favourability of different aggregation sites."

"Trevor Daly, senior fisheries manager for threatened species with the DPI, said a lot of work was being done to track the sharks, monitor their population and conserve the species. "One of the things we would like to look at is whether we can develop, through technology, a dissolvable hook," he said. "Quite often they ingest the hook accidentally, the line gets cut off and the shark swims away, but it has still got the hook inside it doing internal damage. So, if we can design a new hook, that would probably help the survivability of a lot of grey nurse sharks, and other big fish, that are caught accidentally."

Experts agree that citizen scientists and divers play a key role in reporting grey nurse sightings. Mr Stow said, "It's great to have that sort of information coming in from recreational divers, more and more citizens involved in the scientific process are providing very useful information for the conservation of our threatened species."

Craig Taylor still says that they're making a comeback. He remains hopeful that the population is stabilising. "I think they're making a comeback – I think they're thriving," he said. "From the mass slaughter days of the late '60s, yeah, they're well on their way back."

TIGER SHARK VISION

According to new research published in Royal Society Interface, Tiger sharks have low visual acuity. Lead author of the report, Dr Laura Ryan says that the low visual acuity of tiger sharks means that they must rely on any form of movement of their prey. Scientists used "animal-borne cameras" which gave them "unprecedented access into the visual world of animals, including the life and death struggles of hunters and their prey". According to the report, the new research "has combined knowledge on the structure of the eyes of tiger sharks with images of prey and habitat from small cameras deployed on these animals."

(Meanwhile, you can see some video footage of a tiger shark encounter by divers with Tweed Gold Coast Dive Charters at Lady Elliot Island Eco Resort on [Facebook](#).)

THE DEMISE OF MEGALODON SHARKS

The gigantic Megalodon shark (15-20m in length) is said to have died out of existence about 3.6m years ago. They are thought to have existed between 23-15m years ago & 3.6m years ago. It has been suggested that they died out some 1.7m after the arrival of the smaller (5-6m long) white shark some 5.3m years ago. It has been suggested that the more agile Great white out-competed the Megalodon, *Otodus (Carcharocles) megalodon*.

All these details come from the Sunday Mail's Chill section (for kids) on 5th June 2022. Their source was a study published in Nature Communications, co-written by Prof. Kenshu Shimada, a palaeobiologist from DePaul University. Details can be found through Science Daily at <https://www.sciencedaily.com/releases/2022/05/220531111804.htm> . The Journal reference given there is: -

1. Jeremy McCormack, Michael L. Griffiths, Sora L. Kim, Kenshu Shimada, Molly Karnes, Harry Maisch, Sarah Pederzani, Nicolas Bourgon, Klervia Jaouen, Martin A. Becker, Niels Jöns, Guy Sisma-Ventura, Nicolas Straube, Jürgen Pollerspöck, Jean-Jacques Hublin, Robert A. Eagle, Thomas Tütken. **Trophic position of *Otodus megalodon* and great white sharks through time revealed by zinc isotopes.** *Nature Communications*, 2022; 13 (1) DOI: [10.1038/s41467-022-30528-9](https://doi.org/10.1038/s41467-022-30528-9)

According to the YouTube video footage at https://www.youtube.com/watch?v=e1z6dw_K73c , "Megalodon is the largest predatory shark that ever lived, likely reaching 50' in length and around 40 tons..... By comparison, today's largest predatory shark, the Great White Shark, reaches 20' and less than 3 tons." It is worthwhile viewing another YouTube video at <https://www.youtube.com/watch?v=BTpcq2HczVY> . It was, however, published 3 ½ years ago, and gives some different, possibly outdated, data.

OFFICIAL LAUNCH OF THE WORLD LIST OF ACTINIARIA

According to WoRMS (World Register of Marine Species), the “official launch of the World List of Actiniaria (sea anemones) (is) now accessible through their own portal. Visit <https://marinespecies.org/news.php?p=show&id=9027> and <https://www.marinespecies.org/actiniaria/> for more details.

TAXON NEWS

TAXON SPLIT FOR HARD CORAL

There has been a taxon split affecting Green Coral (a hard coral) *Plesiastrea versipora*. Now been split into both *Plesiastrea peroni* and *Plesiastrea versipora*. See <https://www.inaturalist.org/flags/576761> for further details. It says there that “all of the tropical specimens are *P. peroni* (and) all of the subtropical Australian specimens remain *P. versipora*”.

TAXON SWAP

There has been a taxon swap for the elongated keyhole limpet, *Macroschisma producta* which has now been replaced with *Macroschisma productum*. The elongated keyhole limpet is a marine gastropod mollusc (a species of sea snail) in the family Fissurellidae.

FOR YOUR CALENDAR: FORTHCOMING EVENTS

South Australia

6-7 August: Science Alive! at the Adelaide Showgrounds. The SDFSA will be there, as will Experiencing Marine Sanctuaries, the Marine Discovery Centre, and other champions of the South Australian marine scene.

21-23 September: Australasian Institute for Maritime Archaeology (AIMA) Conference, Adelaide. The theme for the conference is 'Decolonising Maritime'. It is the 40th anniversary of AIMA and the 20th anniversary of the Maritime Archaeology Program at Flinders. There will be speakers at the conference discussing topics such as the SUHR and the *City of Adelaide*. There will also be a session on Avocational and Public Initiatives.

Sunday, 5th March 2023: Dive for Cancer, Port Noarlunga. Diving at Port Noarlunga reef will be followed by food & drinks, a guest speaker, some prize giveaways, silent and live auctions. See www.diveforcancer.com.au.

Interstate/International

28 July to 1 August: Australia International Dive Expo (AIDE), ICC Sydney. See www.australiadiveexpo.com.

13th – 21st August 2022: NATIONAL SCIENCE WEEK 2022. See www.scienceweek.net.au.

19th to 21st August 2022: 15th Australian National Shell Show - Sydney

1-2 October 2022: OZTEK Conference and OZDIVE Expo. Held at the Melbourne Conference and Exhibition Centre. Visit <https://OZTek.com.au> and <https://OZDive.net.au> for more details.

6-10 November 2022: Australian Society for Fish Biology conference, Surfers Paradise.
www.asfb.org.au

18th-21st November: The 2022 Nautical Archaeology Society Conference will be held in Ireland:
https://www.nauticalarchaeologysociety.org/annual-conference?fbclid=IwAR2fi13zFeWkYOayVaXAylaVnyqrHMNfthi9ebjioL4eWcXqvL_xpGm8rAM .

ABOUT THE SDFS...

SDFS is a non-profit, incorporated membership association dedicated to the preservation and enjoyment of our unique underwater world.

JOIN US FOR FREE!

<https://sdfs.net/membership-categories/>

The more members we have, the stronger our influence. We serve as a peak body representing the interests of South Australian recreational scuba divers and the related sports of freediving and snorkelling, including the provision of information to government and the general public. Together we can have real impact on the issues affecting the South Australian diving community.

If you wish to be added to the mailing list for this Newsletter, join the SDFS!

You can also read about the Federation's work in monthly issues of DiveLog Australasia, Scubadiver ANZ and on our website at <https://sdfs.net>. Stay up to date with the latest news through our Facebook page, <https://www.facebook.com/scubadivesa/>. And follow our FB group, SA Dive Sites Vlz and Conditions for current diving conditions shared by the group members.

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