

G'day from Scuba Dive SA

Scuba Dive SA Bulletin - June 2018

This bulletin is provided as a service to members of the

SCUBA DIVERS FEDERATION OF SA

(Trading as Scuba Dive SA)

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Scuba Dive SA is the peak body in South Australia, representing all recreational scuba divers.
The SDF is also the 'Safe Diving' Federation. We promote Safe Diving.

We are publishing this electronic bulletin as a separate publication to our normal monthly SDF News Sheet. Future issues of this "Scuba Dive SA Bulletin" will include lengthy articles about matters of interest to recreational divers. We welcome contributions from our readers.

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AUSTRALIAN JETTIES POSTAGE STAMPS

Australia Post released four postage stamps featuring Australian jetties in February 2017. The four jetties are: Busselton, Western Australia; Tumby Bay, South Australia; Shelley Beach near Portsea, Victoria; and Kincumber, New South Wales. According to the web page found at <https://australiapostcollectables.com.au/stamp-issues/australian-jetties> , "Many of the countless jetties and piers that punctuate Australia's coastline and waterways were originally built to moor vessels transporting goods and passengers. While some have since fallen into disuse, others are still popular for recreational fishing, diving, snorkelling and other tourist activities. The four featured jetties from around the country, all wooden, include those at Busselton, Western Australia; Tumby Bay, South Australia; Shelley Beach near Portsea, Victoria; and Kincumber, New South Wales. The striking stamp designs use photography to showcase the dramatic light and colour of each scene.

The stamps

\$1 Busselton Jetty, WA

The city of Busselton is situated on Geographe Bay on the southwest tip of Western Australia. One of the earliest settlements in the state, the town was established as a major port for the transportation of timber. At nearly two kilometres in length, the Busselton Jetty is the longest wooden jetty in the world, so constructed because Geographe Bay was too shallow for ships to moor closer to shore. The jetty commenced construction in 1853 and was extended several times into the 1960s before closing to ships in 1972. In recent years the historic jetty has been rebuilt

and renovated and is now a popular attraction, with the old rail line along the pier now carrying tourists to an underwater observatory near the end of the jetty, which is listed in the State Register of Heritage Places.

\$1 Tumby Bay Jetty, SA

Tumby Bay is a farming town situated on the Spencer Gulf on the eastern coast of Eyre Peninsula in South Australia. The town was established as a shipping port for wheat, wool, copper and talc and the 133-metre long jetty, the second on the Peninsula, was constructed in 1874 to ship anticipated supplies of copper from the nearby Burrawing Mine. The jetty was extended in 1905 and 1909, and dismantled for safety reasons in 1999. The current wooden jetty was constructed in 1908–09 and is well known as a diving destination for viewing sea creatures including the Leafy Seadragon, nudibranchs, seahorses, octopuses and rays.

\$2.10 Shelley Beach Jetty, VIC

Portsea is a popular resort town located 95 kilometres from Melbourne near the end of the Mornington Peninsula and close to the Heads, the region of water connecting the protected Port Phillip Bay with the wild ocean of Bass Strait. The picturesque private jetty on the stamp is located at Shelley Beach, a small secluded beach between Portsea and Sorrento.

\$2.95 Kincumber Jetty, NSW

The jetty at Kincumber is located on the Brisbane Water, an estuary in the Central Coast region north of Sydney. The small wooden jetty can be found from the walk and cycle track between the towns of Kincumber and Davistown. The scenic estuary is an important region for birds such as the Bush Stone Curlew, Regent Honeyeater and Swift Parrot. The nearby Kincumba Mountain Reserve is a major attraction. Kincumber was one of the earliest settlements on the Central Coast, established to supply wood from the surrounding rainforest for the growing colony of Sydney in the early 19th century. Meeting the needs of water transport, boat building was also an important industry.”

“A FOURTH NEW RECORD FOR SYDNEY HARBOUR!

A huge thank you goes to Kim Dinh who recently added an observation of a 3 cm long juvenile Blackspotted Puffer, *Arothron nigropunctatus*, photographed in Sydney Harbour.

The species had not previously been recorded from the Harbour. The Sydney Harbour Fish list, which now contains 595 species, has been updated.

Kim's observation, which was made on the 9th April 2018, was followed up by a second sighting of the same fish 12 days later. Kim reported that the fish had grown to about 5cm in length.

The Blackspotted Puffer is a tropical species. In Australia, it occurs from northwestern Western Australia, around the tropical north of the country, and on the east coast south to the Shoalhaven River, New South Wales. The species has previously been photographed south of Sydney by Andrew Trevor-Jones, but Kim's observation is the first time it has been documented from within the harbour.

Since Australasian Fishes went online in October 2016, 3 species have been added to the Sydney Harbour List in addition to Kim's recent observation:

Clown Toby, *Canthigaster callisterna*

Whitespotted Dragonet, *Orbonymus rameus*

Mossback Velvetfish, *Paraploactis trachyderma*

As warming continues are we likely to see more tropical species venturing further south more regularly, or even establishing where previously they had not lived?"

Comments that followed included:

"Yes, I agree with you. I'm pleased that this sort of information is being documented by Australasian Fishes. There have been multiple observations of fishes photographed outside their recognised ranges. I'm sure there will be many to come.

The answer is yes, but also not really, but maybe in the longer term.

In the last 20 years tropical species have been recorded more often, and further south on the east coast of Australia. That's a fact. However, the Australian Museum contains specimens from Sydney Harbour of coral trout from over 60 years ago, commercial records from the south coast of NSW indicate good runs of spotted mackerel around 40 years ago, and so on and so forth. Many range extensions are of juveniles. New record, fair enough, but is that ecologically significant.... who knows.

For me, the true indicator of spatial shifts in species compositions is medium to long term permanence. By that I mean the establishment of adult populations that are capable of self-replenishment.

A good example is the Black Cod, *Epinephelus daemeli*. This species was abundant in NSW, including southern regions, but fishing reduced those populations, especially in the south, to very low numbers by the 1980's. However, NSW Fisheries examination of BC speared in comps revealed that Black Cod in southern regions were not reproductively active. A "dead" population in effect, relying on larval replenishment from breeding populations further north.

Currently we are seeing good numbers of juveniles of Black Cod on the south coast. Is this a good thing, or are locally endemic predatory fish of similar size being negatively impacted?

The same question can be asked of the tropical arrivals we are seeing now. Are these butterflyfish going to form long term, stable populations which form reproductive units, or will they simply be food for whatever can eat them come winter?"

(Source: <https://www.inaturalist.org/projects/9358/journal/15426>)

“CONNECTING AUSTRALIANS TO THE WORLD (FROM THE '80S TO THE ‘TERA ERA’)

(It's hard to imagine life without the internet – there would be no binge-watching Netflix, email or shopping on Amazon. However, less than 25 years ago few people had even heard of the internet. During this time of immense change, advancements in the internet's backbone – a vast network of international undersea cables – has kept our Head of Global Marine Operations, Phil Murphy, on his toes during a long career at Telstra.)

It's dizzying to think how much the world has changed since the early mass adoption of the internet in the 1990s. It is now part of many aspects of everyday life and is made possible by a vast network of subsea cables crisscrossing the ocean floor. Today we rely on these cables to transport 99 per cent of our international data – the remaining one per cent is transmitted via satellite.

Connecting the world via subsea cables isn't exactly new, but it has changed a lot since the first one was laid between England and France in the 1850s. Capable of electronically transmitting Morse code one character every two minutes, this telegraph cable was made of copper. Imagine today's typical SMS taking more than five hours to send!

Fast-forward to more recent history – the 1980s – and voice traffic was booming thanks to the use of landlines. It wasn't until the 1990s that today's modern subsea cable using digital fibre-optic technology became available for commercial use. Using rapid pulses of laser light carried by hair-thin glass strands, this new technology could transmit data at much higher capacity. It would drastically reduce communications times so there was less delay compared to satellite, when speaking on the phone. Even so, it was not yet known that this fibre-optic technology would be the foundation for the internet as we now know it.

I joined what was then the Overseas Telecommunications Commission, a precursor to Telstra, as an engineering graduate in 1975 and first worked on a subsea cable project in the early 80s. This new cable, called ANZCAN, would span the ocean floor to connect Australia with New Zealand and Canada. For Australia, this was a significant milestone for international connectivity. Queen Elizabeth II officially opened the cable in 1984 at the Sydney Opera House and I was there to watch.

By the mid-90s many of us were familiarising ourselves with dial-up internet. I worked on subsea cables projects connecting Australia and New Zealand, as well as Hawaii and Guam. These cables would all enter service before 1995. As internet adoption increased, the internet giants of today like Google and Amazon were created, and encyclopaedias were quickly replaced by “surfing the web.” There were around 16 million people online in 1995. Today, with broadband and mobile internet that figure is close to four billion.

As the technology we use to connect has changed, so too has the design and capacity of our cables. We've gone from designing cables primarily for voice calls to ones that cater for the enormous demand for data driven by the rise of video streaming, cloud computing and virtual reality. To put this in context, in the late 1980s, 75 per cent of developed countries' communication was voice traffic. Today, 65 per cent of traffic is data.

To this day I continue to work on Telstra's subsea cable projects that enable millions of consumers and businesses around the world to connect to the internet. Work is currently underway to build INDIGO – a new subsea cable system that will connect Perth and Southeast Asia. At speeds of 36 terabits per second, INDIGO will deliver around 40 times more capacity than the current cable that runs between Perth and Singapore.

Looking back, the technology of the 1980s is almost unrecognisable. When we consider that the last 30 years brought us Facebook, Google and more recently the Internet of Things (IoT), I can only imagine what incredible advancements we'll see next to the technology that keeps us all connected.”

(The above details were written by Philip Murphy, General Manager, Marine Operations at Telstra. Phil has been involved in the international telecommunication industry since completing his engineering degree in 1974. During his career, he has been responsible for satellite planning at 36,000km up and subsea cables at over 8,000m down. His career started at the Overseas Telecommunications Commission (OTC, a precursor to Telstra) before taking up roles at Reach and the Australia Japan Cable (AJC). He then re-joined Telstra in 2015.)

(Source: https://exchange.telstra.com.au/story-connecting-australians-world-80s-tera-era/?ref=BP_ARTICLE_TEL_EXCH_our-underwater-cables-explained_99-of-international-data-is-carried-under-seas_160518)

TEN GUIDING PRINCIPLES FOR MARINE AND COASTAL MANAGEMENT

Delegates at the Coast to Coast Conference held in Hobart in April endorsed Ten Guiding Principles for Marine and Coastal Management. These were then endorsed by the Australian Coastal Society on 2nd May.

Preamble: As marine and coastal practitioners we recognise Australia's diverse marine and coastal environments as ecosystems with intrinsic values that need to be cared for, wisely used, and effectively managed, to ensure these are sustained now and into the future.

These 10 guiding principles, intentionally broad, reflect current best practice in marine and coastal management. They provide guideposts for marine and coastal practitioners in the development of comprehensive, inclusive, and sustainable responses to the challenges of managing Australia's coasts and seas, and offer points of reflection in the review of policies, plans and programs.

1. **Managing Country Together:** Australian marine and coastal planning, management, and practice will be built on partnerships with Indigenous peoples, and respect for thousands of years of effective stewardship and traditional and contemporary Aboriginal knowledge.
2. **Empowering Community:** Marine and coastal practitioners will seek to foster leadership, build a culture of respect and stewardship for marine and coastal values, and empower communities to actively participate in decision making.
3. **Recognising People and Nature:** The interests of those that derive benefit or livelihoods from the coast or seas be they economic, social, environmental, or spiritual, are recognised and we seek to find balance between these interests and the needs of the natural world in our planning, protection, and use.
4. **Integrating Management:** Marine and coastal planning and management will be integrated within a framework that considers natural systems and the linkages between the land and seascapes.
5. **Working Collectively:** Spatial planning provides opportunities to bring together stakeholders, decision makers, and communities, in the development of marine and coastal policies, whilst also helping to build understanding and collaboration among different sectors.
6. **Recognizing Constant Change:** The dynamic nature of marine and coastal systems requires adaptive management approaches in planning.
7. **Climate Change Urgency:** Action is required now to reduce the impacts of climate change on Australia's marine and coastal environments.
8. **Evidence Based Decision Making:** Effective marine and coastal management will be informed and evaluated by science and ensure that new information is incorporated into our decision making.
9. **Engaging Hearts and Minds:** In creating sustainable futures for our marine and coastal environments the arts provide unique opportunities to engage hearts and minds, and enhance the contributions from other disciplines and practitioners.
10. **Collaborating:** Transparent networking and collaborative opportunities are fundamental for knowledge transfer and developing communities of shared practice to better care for Australia's marine and coastal environments.

(Source: <https://australiancoastalsociety.org/latest-news/2018/may/08/ten-guiding-principles-for-marine-and-coastal-management/>)

The Scuba Divers Federation of SA is a member of the following: -
RecfishSA (SA Recreational Fishing Advisory Council)

TRAIL COMMITTEES - SA Trails Coordinating Committee (Office of Recreation & Sport) and Port Noarlunga Reef Underwater Trail South Australian Trails

If you wish to be included on the mailing list for this electronic bulletin, contact Steve Reynolds, the Federation's Secretary, on info@sdfsaustralia.net for more details.

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