

SDFSFA Bulletin April 2007

This bulletin is provided as a service to members of the  
SCUBA DIVERS FEDERATION OF SA

Working to develop the sport of Scuba diving in SA  
PO Box 360, Goodwood SA 5034 [info@sdfsfa.net](mailto:info@sdfsfa.net) [www.sdfsfa.net](http://www.sdfsfa.net)

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

If you don't have the time to read through everything in this bulletin, take advantage of the following table of contents. Click on any item of interest to proceed straight to that section.

**CONTENTS:**

<a href="#">RAPID BAY JETTY UPDATE</a> .....	1
<a href="#">DISCOVERY OF AE1 SITE?</a> .....	2
<a href="#">SCUBA DIVE THE GREAT BARRIER REEF WITH DIVE 1770</a> .....	3
<a href="#">COWNOSE RAY POPULATION IN U.S. HAS GROWN TENFOLD IN 30 YEARS</a> ...	4
<a href="#">DIVING IN THE PEARSE RESURGENCE IN NEW ZEALAND</a> .....	5
<a href="#">COLOUR-CHANGE FOR CRAYS</a> .....	8
<a href="#">LARGEST SQUID EVER CAUGHT</a> .....	8
<a href="#">‘SCUBA DIVING’ COWS</a> .....	9
<a href="#">MORE FROM “LANDLINE”</a> .....	10

**RAPID BAY JETTY UPDATE**

As reported in our April news sheet, the Department for Transport Energy and Infrastructure advertised for expressions of interest (No.07C012) in the design and construction of the proposed new Rapid Bay jetty in The Advertiser on 3<sup>rd</sup> April. The Friends of Rapid Bay Jetty have downloaded all of the tender documents and have put them in a folder on their website at <http://www.rapidbayjetty.org/docs/tender/>. The Friends say that the filenames are long, but appear at the bottom of your screen as you move your mouse over them. The large one that starts with DTEI is all of the docs, zipped into one package. Right-click, save as.....or use the link below: - <http://www.rapidbayjetty.org/docs/tender/DTEI014281-specification.zip>. Hank van der Wijngaart also downloaded the documents. He says that zipped up they are 14.5 MB. He brought some selected printouts to the April SDF meeting. You can also try [www.tender.sa.gov.au](http://www.tender.sa.gov.au) (code DTEI014281). The closing date for expressions of interest is 2pm on 8<sup>th</sup> May. It seems at this stage that work will not commence on the building of the new jetty until next summer, with its completion not expected until late 2008. The length of the jetty could end up being somewhere between 260 & 300m, depending on the level of difficulties encountered during its construction. The jetty is to be built for a minimum life span of 40 years. It will provide safe access for divers, anglers and tourists. The seaward end of the new jetty should be approximately 30m east of the old jetty. There will be a centrally located shelter to provide wind protection and seating for anglers (& divers?). There will be lighting, including lighting of the divers' staircase that is being built at the NW end of the jetty, alongside it. There will also be a formed path on the

foreshore alongside the jetty to provide access to the water for swimmers – a kind of “pedestrian boat launching ramp”. The old jetty was built by BHP between 1939 & 1942. The preliminary design for the new jetty is based on a pre-cast concrete bridge system.

## **SEA TURTLES**

As reported in the April issue of our news sheet, a huge Leatherback sea turtle, *Dermochelys coriacea*, was sighted off of Outer Harbor, SA on 1<sup>st</sup> April. Fishermen sighted the turtle among some jellyfish 10km off of Outer Harbor. Jellyfish are its preferred diet. It was estimated to be 2.4m long with 1.5m-long pectoral fins. The reference to pectoral fins would be regarding its fore flippers which are said to be immense. According to The Advertiser, the turtles can weigh up to 916kg and they can live for as long as 150 years. Despite having survived for more than 100m years, they are now facing “imminent extinction”. Mike Gemmell, information officer for the SA Museum, said that they tour the oceans of the world and they are seen quite regularly in our gulfs. Rob and Chris McDonald both saw one off Somerton in June 2001. Another had been seen 18km off of Port Hughes in 1992. Visit <http://www.mlssa.asn.au/> and read the September 2001 MLSSA Newsletter for further details.

According to a report in the 11<sup>th</sup> April 2007 issue of the Marine And Coastal Community Network’s “Wetstuff News” (Harnessing Turtle Power), Leatherback sea turtles have been around for more than 100m years and they survived the extinction of the dinosaurs. Human activity and ignorance in the past 50 years, however, has left only 40,000 of the turtles swimming in our oceans. As bycatch from fisheries activities, they could be extinct by as early as 2015 in the Pacific Ocean. A research biologist, however, may have found the key to saving them from the brink of extinction - with the help of some rubber hose and fishing line.

Source & full text: <http://www.publicaffairs.ubc.ca/ubcreports/2007/07apr05/turtle.html>.

## **DISCOVERY OF AE1 SITE?**

As reported in our March news sheet, one of the RAN’s high tech survey ships, HMAS *Benalla* (and HMAS *Shepparton*), was conducting a search off of Papua New Guinea for the Australian WWI E-class submarine, HMAS AE1. Two E-class subs were built in England and sold to Australia prior to WWI in 1914. Regarded as Australia’s first sub, the AE1 was lost ‘with all hands’ somewhere near Rabaul on 14<sup>th</sup> September 1914. The sub was on patrol after the successful taking of Herbertshohe. There were 35 men and officers, Australians and British, on board the sub. Five of the Australian men were said to be Victorians. When the sub went missing, it was said to have been in calm but very deep waters. The Navy thought that it may have found the missing sub during the search but would not reveal too much. HMAS *Benall* (A04) was towing side scan sonar in deep water off the Duke of York Islands of east New Britain (PNG) for the search. The \$30,000 sonar, which was able to scan to a depth of 200m, detected a man-made object about 25-30m long and 4m high. The side-scan sonar, however, became snagged during the search and it was lost. An attempt to recover the sonar and its cable failed. HMAS *Benalla* continued the search for the AE1 sub using sonar attached to its hull. This sonar was able to scan to a depth of just 60m. The object that had already been located was within that range. The sonar was used to confirm (double-check?) the 25 - 30m-long man-made object found earlier. The E-class subs were 56m long, so the object found may

be, at best, only half a sub. Two sections, however, were thought to be on the reef slope. The Navy now intends to use an ROV with imaging capabilities to positively ID the object found. The search for the AE1 featured on ABC TV's "Foreign Correspondent" in March. Below is a synopsis of the programme: -

"The Hunt for the AE1

In this report, we reveal that the Royal Australian Navy has found what may be the wreckage of Australia's first submarine, the AE1, which sank in 1914. The ABC's Papua New Guinea correspondent Steve Marshall shows that during a search of the waters of the Duke of York islands by one of the RAN's high tech. survey ships, HMAS *Benalla*, a strange shape was discovered. A three dimensional image of the object, sixty metres deep, was developed on the *Benalla*'s sonar screens. Lieutenant Commander Richard Mortimer told Marshall, "We've got confirmation on two different systems that there is definitely a feature there. There's a non-natural mound there." For retired RAN commander John Foster who was aboard the *Benalla* it was a golden moment. He's spent 30 years searching for the AE1. Foster told Marshall, "I'm going to stick my neck out and say it is a possible submarine." Mortimer: "Yeah. I would concur with that." Foster looks forward to the day that a remotely operated submersible will be brought to the site to locate and photograph the object to confirm whether it is the AE1."

Source: <http://www.abc.net.au/foreign/content/2007/s1878267.htm>

For further information on the search for the AE1 submarine, read "AE1 Entombed But Not Forgotten" by John Foster (retired RAN commander), published by Australian Military History Publications. It is apparently available at Boat Books, Sydney. Visit <http://www.boatbooks-aust.com.au/> for further details.

### **SCUBA DIVE THE GREAT BARRIER REEF WITH DIVE 1770**

The Town of 1770 in Queensland is the closest mainland point from which to explore the beauty of the Southern Great Barrier Reef. 1770 is located ½ a day's drive from Brisbane or Airlie Beach, and has stinger free beaches, surf and is surrounded by National Parks. Dive 1770 offer Day Trips to the Great Barrier Reef for Certified or Introductory Divers, Equipment Hire & Air Fills, PADI Courses :Open Water – Divemaster.

Diving Day Trips to the Great Barrier Reef

Dive 1770 offers Day Trips to the nearby Great Barrier Reef. Destinations include Lady Musgrave Island and Fitzroy Reef, where certified divers can enjoy several dives along various sections of the Great Barrier Reef, with our experienced team. Aquatic life commonly seen includes a variety of turtles, manta rays, moray eels, large coral trout, potato cod, batfish, schooling trevally, lionfish, sea cucumbers, nudibranchs, clown fish and anemones. Visibility usually ranges from 15 - 20m, with 25m+ visibility not uncommon on calm days.

½ Day Trips to Bustard Head & Pancake Creek

The Town of 1770 provides excellent access to nearby dive locations such as Bustard Head and Pancake Creek which offer a variety of dive locations. Bustard Head has 3 rock pinnacles, Inner, Middle and Outer Rock which each provide a variety of soft and hard corals, and tropical and temperate fish types. Depths range from 10 - 35m and visibility is usually around 10-15m.

½ Day Trips to the Wreck of the 'Karma'

2 years ago the 48m cargo vessel 'Karma' was sunk, and it has since become one of Queensland's best wreck dives. Sitting in 28m of water, the Karma wreck offers an excellent dive location for divers of all experience levels.

#### Private Charters

For those with no experience with scuba diving, we offer Introductory Scuba Dives which enable novices to explore the beauty of the underwater world for the first time. The Introductory Dives are designed to give the novice diver a taste of what scuba diving is all about.

If you have any questions or would like further information contact the friendly Dive 1770 staff who will be only too happy to assist you to plan your next diving holiday.

Mobile: 04 285 656 26

Phone: 07 497 493 59

Mail: 614 Captain Cook Dve, Town of 1770, Qld, 4677

Email: [dive@1770.net](mailto:dive@1770.net)

Source: <http://www.letsconnect.com.au/1770/barrierreefdiving-pp7.htm>

### **COWNOSE RAY POPULATION IN U.S. HAS GROWN TENFOLD IN 30 YEARS**

Many thanks to Leon Roskilly from the Sea Anglers' Conservation Network (<http://www.sacn.org.uk>) for sending us the following article by Catherine Brahic taken from the NewScientist.com news service: -

#### **“US SHELLFISH INDUSTRY DESTROYED BY SHARK FISHING**

The demise of the shellfish industry in the US can be directly traced to the way humans have devastated ocean shark populations, a new study suggests. Humans eat big sharks, sharks eat rays, rays eat molluscs. And so it is that by drastically reducing populations of large sharks, humans have indirectly wiped out their own scallop-fishing industry. The middle player in this ecological cascade, according to the new study, is the cownose ray – the only species whose population has benefited, growing tenfold in 30 years. The study demonstrates how the ocean's very large and very small animals are linked and underlines the importance of preserving the ocean's biggest and most powerful predator.

99% drop

Ransom Myers at Dalhousie University in Halifax, Canada, and colleagues looked at 17 marine surveys carried out along the eastern coast of the US between 1970 and 2005, and used them to build computer models of how large shark populations have fluctuated in that time. Their results suggest that the scalloped hammerhead sharks and tiger sharks may have declined by more than 97%, while bull-, dusky- and smooth hammerhead sharks may have declined by more than 99%. The decline is largely as a result of growing demand for shark fins and meats, and because large sharks often end up as by-catch in fishing nets.

#### Down the chain

While populations of large sharks have declined, those of their prey – rays, skates and small sharks – have increased. The surveys show that all but two of the 14 species of prey have profited from the sharks' disappearance. The cownose ray benefited most: six of seven surveys covering the population of these rays in the US Atlantic suggest that its numbers have grown tenfold since the mid-1970s. "There may now be over 40 million rays in the population," the researchers say, which is remarkable for a species with such a low reproductive rate. Cownose rays eat a variety of molluscs. The researchers estimate

that the population consumes 840,000 tonnes of mollusc flesh each year as the rays migrate through the Chesapeake Bay on the Atlantic coast, the largest estuary in the US. That bounty represents nearly three times the total catch of commercial mollusc fisheries from the surrounding states of Virginia and Maryland in 2003.

#### Ring-fenced prey

Bay scallops (bivalve molluscs) are an important part of the rays' diet, and the researchers suggest that the explosion in the number of cownose rays on the eastern seaboard is responsible for putting an end to North Carolina's century-old bay scallop fishery. The industry shut down in 2004. In 1983 and 1984, a survey had looked at the populations of bay scallops before and after the cownose rays' annual migration and found that the rays had no effect on the scallops. Myers and colleagues repeated the study, and fenced off some experimental areas to protect the scallops. They found that the rays nearly wiped out the scallops outside the fenced off areas. Worryingly, the scallops – if they survive – spawn after the rays' passage, and the researchers suggest this could explain that the rays were able to wipe out the scallop fishery in North Carolina. The example holds along the coast. Bivalve fisheries located within cownose ray habitat range have been declining, while the catch of bivalves landed by fisheries north of the range is stable or increasing. The researchers are concerned that once the rays can no longer find enough molluscs to eat in their usual, easily accessible foraging spots, they will seek out the prey buried in sediment. This could uproot seagrass, which acts as an important nursery for many marine organisms.

Journal reference: *Science* (DOI: 10.1126/science.1138657)”

Source: <http://environment.newscientist.com/article/dn11495-us-shellfish-industry-destroyed-by-shark-fishing.html>

### **DIVING IN THE PEARSE RESURGENCE IN NEW ZEALAND**

It was recently announced that a cave diving group had broken a new depth record in the Pearse Resurgence in New Zealand. The Pearse Resurgence drains the karst systems of Mount Arthur. New Zealand cave diver Dave Weaver died in an attempt on the New Zealand cave diving depth record in the Pearse Resurgence in April 1995. In January 1997 SUSS cave divers David Apperley and Richard Taylor dived to recover Dave Weaver's body and also to attempt further penetration into the Pearse. Below is the report by Richard Taylor on their mission back then: -

#### “Diving the Pearse Resurgence

In April 1995, New Zealand cave diver Dave Weaver died in an attempt on the New Zealand cave diving depth record in the Pearse Resurgence, which drains the karst systems of Mount Arthur. Due to the extreme depth at which Dave's body was located, recovery was to be a difficult task, requiring mixed gases. In January, SUSS cave divers David Apperley and Richard Taylor set off for the Pearse. Their objectives were twofold - to recover Dave Weaver's body, and to attempt further penetration into the Pearse. David Apperley and myself (Richard Taylor) flew over from Sydney to Wellington where we met up with Tim Cashman, from Auckland, and proceeded to organise the last of equipment and supplies necessary for the trip. We intended to use trimix, as this would allow us to explore the Pearse system beyond the 75m (250ft) reached by Kieran McKay in April 1995 (though Kieran dived to 85m (280ft) in an attempt to assist Dave Weaver, the laid line only extended to 75m (250ft)). We hired a trailer (Tim graciously supplying

the car and compressor) and caught the midnight ferry from Wellington to Picton, at the top of the South Island. The 3-hour ferry ride was uneventful and, arriving at Picton in the wee hours, we proceeded to make our way to Nelson. A quick stop for supplies (food, tanks and the helium and oxygen) and we made our way to Motueka and Mountain View Helicopters, our ride into the Pearse Resurgence base camp. There is a walking track along the river which takes about two hours from the car park, but the only access for getting dive equipment in (and we had a fair bit) is by a short 5 minute chopper ride. The first day we managed a quick dive into the system to familiarise ourselves with the cave. Using twin redundant cylinders of air we all entered at the Welcome Inn Pool and descended to 13m (40ft). Here we came across line left from a previous trip. Following down we entered a tight corkscrew chasm that, twisted to 30m (100ft) depth before levelling off and finally opening out into a large chamber and a massive dark chasm beneath us. The tunnel we had come down was the Pan Galactic Gargleblaster, named during the fateful April 1995 expedition. In the large chasm, the line joined a yellow line which headed down. We followed this down to 50m (165ft), enough to see the line kept going. The water was cold, 7°C but crystal clear. We followed our way back up the Gargleblaster, our enthusiasm high as the cave definitely had potential. On the second day we did two dives, again on air. On the first dive we entered the system at 13m (30ft) but, instead of following the Gargleblaster down, we went west, along a large passage that only slightly increased in depth. This passage we now know as Nightmare Crescent following a tangle of wires and silt encountered by the TVNZ 'Deep Blue' team in their filming of the system in February 1995, two months before Dave Weaver's fateful trip. After 20m (65ft) this passage opened out into a large chamber with an obvious air chamber high up in the ceiling and a large tieoff at 18m (60ft) from which two other lines disappeared into the system. The first was the same yellow line we had encountered yesterday, and this led down! The second was orange cave line heading over the chasm and into one of a number of side tunnels that made this system look like Swiss cheese. This chamber is called the Chamber of Horrors. We followed the yellow line down, heading slightly south, our lights making out both the sloping floor and ceiling of the chasm. The line connected with the Gargleblaster line at 35m (115ft) and we continued down, the chamber obviously a gigantic fissure that had been carved into the rock. David Apperley dived down to 60m (200ft) and could see the line was tied off and then headed horizontally west. But it (was) time to call (off) the dive and we ascended, looking forward to exploring more the next day. The second dive that day was spent becoming more familiar with the passages we had already encountered, as well as fixing any previous line that we found that had become loose and ensuring that any permanent line laid was well tied off. Tim Cashman visited the air chamber above the Chamber of Horrors and reported it was large and appeared to extend well beyond the area we had dived to date. The next day (day 3) we again proceeded down the Chamber of Horrors, where we dropped off a spare air cylinder at 18m (60ft) before descending down the main line to the 60m (200ft) tie off. We then followed the line west for 10m (33ft) where it was again tied off before heading back down. This tieoff was at a bridge connecting the both sides of the chasm. The line then headed down even further into the darkness. David Apperley dropped a few metres below and shone his torch down. The line continued, though there seemed to be a reel attached to the line further down. However, we had reached the limit of our diving on air, we were at one thirds and it was time to ascend and

begin to mix gas for our first trimix dives. We decided that on the first day mix diving that two of us (David Apperley and myself) would dive to a maximum depth of 85m (280ft) on gas whilst Tim would remain a support dive on air, remaining above 60m (200ft). We selected a trimix of 15% oxygen, 26% helium and 59% nitrogen which would give us a partial pressure of oxygen (PPO<sup>2</sup>) of 1.4 and an equivalent narcotic depth of 60m (200ft). Air was to be used as a travel (or descent) gas to 50m (165ft) before swapping to gas whilst air would again be used for the ascent from 50m (165ft) and surface supplied oxygen would be used at the 6m and 3m (20ft and 10ft) decompression stops. We had a run time of 70 minutes from the start of the dive to the end for an 18-minute bottom time (52 minutes decompression!!) with decompression stops beginning at 30m (100ft). Even with dry suits, the 7°C water temperature would make this a long cold dive! Day 4 and the first mix dives! We descended to 50m (165ft) on air, checking the spare air cylinder as we went. On gas, Dave and I proceeded down, over to the bridge and down further, our torchlights reaching far off into the depths. At 70m (230ft) we came across a reel, with another line attached and a tie-off at 75m (250ft). There below us I could make out a ledge, and laying there upside down, head and shoulders covered in fine silt, was the body of Dave Weaver. My buddy David connected new line and dropped down to the body. He attached a lift bag and filled it with air. This ballooning effect should have lifted the body out of the silt. Nothing happened; Dave Weaver's body and scuba equipment weighed too much. With our own gas supply now running low it was time for us to head to the surface. David tied off to the ledge and we began our slow ascent. Nearly an hour later, and very cold, we reached the surface and had to decide what to do. After some planning we believed this could be easily done in one or two more dives...how wrong we were! The next 3 days were spent using the helium mixes to work at depths progressively shallower from 85m until finally, on day 7 the body of Dave Weaver was brought to the surface. The police were notified via a helpful hiker taking a letter out on our behalf requesting assistance in removing the body from the area. The following day, around 10am two helicopters came into view and landed in amongst our camp, bringing police, associates, TVNZ news and the Nelson Mail reporters. By 1pm they were gone, but the puzzle remained. Once the dive equipment had been recovered we looked closely and could see that though Dave Weaver had dived in a dry suit his buoyancy compensator was not connected to his low-pressure inflator hose, which was actually tucked in between his tanks. What had happened? Why was this not connected? It would be hard to determine the exact cause of Dave Weavers accident, that is the job of the coroner. Possibly, with no build up dives and was just getting over a cold, Dave went to 75m (250ft), was narked and only using his dry suit for inflation. He would have gone to ascend and looking up or raising his arms possibly lost air from his suit. He would have begun to fin upwards, increasing his breathing rate substantially. As he was still sinking he would have finned faster. The increased depth, exertion and narcosis would have all contributed to increased breathing rate which would have increased his CO<sup>2</sup> levels. This and the cold (4°C) and depth would have meant he was at high risk of an oxygen hit (PPO<sup>2</sup> of 1.9) which would have meant he lost consciousness and drowned. The recovery of Dave Weaver has hopefully opened up the Pearse Resurgence to further exploration. After the police and all had left we still had another dive to make. Gas had been previously mixed and David Apperley undertook to explore the system beyond the 85m reached so far. Using a 12% oxygen, 43% helium and 45% nitrogen mixture David

laid new line and reached a depth of 103m (340ft), a New Zealand and Australian Cave Diving record! The cave tunnel flattens out here and heads South East, towards the Nettlebed cave system about 1.5 km away. This dive was a major achievement and was even a greater challenge given the experiences of the previous few days. Further exploration is possible, however the depth will limit this to the edge of technical diving. An expedition using both open circuit SCUBA and closed circuit re-breathers will need to be mounted if we are to push the limits of the Pearse even further. Finally, the trip would not have been possible without the many helpful contacts provided by cavers and cave divers in both Australia and New Zealand. Their assistance in making this trip happen cannot be understated (?).”

Source: [http://www.ee.usyd.edu.au/suss/Bulls/36\(4\)/nz\\_diving.html](http://www.ee.usyd.edu.au/suss/Bulls/36(4)/nz_diving.html)

### **COLOUR-CHANGE FOR CRAYS**

The following report featured in The Advertiser on 23<sup>rd</sup> March. There was a photo of a wetsuited SARDI scientist, Dr Adrian Linnane, in the water holding a deep-water lobster in his gloved hands. It was taken by James Elsby.

“A colour code for lobster exports

by Cara Jenkin

Rock lobsters will be brought in from the deep and given a "sunburn" in a trial to improve the fishery's worth and sustainability in South Australia. Ninety per cent of SA's southern rock lobsters are exported to China, where the red-coloured lobsters are worth much more than their deep-water, white-speckled counterparts. SA Research and Development Institute scientist Dr Adrian Linnane said that by taking them into the shallows, he hoped their colour would change while still tasting the same. He said scientists believe the colouration could be aided by the large amount of light that penetrates shallow water. "Most of the fishing effort is in the shallows and because there hasn't been much fishing undertaken in deep water, there's a high abundance of lobsters that are just the wrong colour," he said. "We want to utilise their biology and see if we can change their colour." Recreational fishermen who find lobsters which have been tagged should return them to the water.”

Source: <http://www.news.com.au/adelaidenow/story/0,22606,21430538-2682,00.html>

### **LARGEST SQUID EVER CAUGHT**

In last month's "Comedy Corner (Marine Laughs)" we reported that some New Zealand fishermen had discovered a 10m-long squid weighing about 450kg in February. Below is a report saying that the squid was, in fact, much heavier than 450kg: -

“Squid weighs in as largest ever caught

by Xavier La Canna (Auckland)

New Zealand's biggest aquatic celebrity, a colossal squid, has officially weighed-in at 495kg, making it the largest ever caught. But it won't get any bigger because it's already dead cold. And scientists can't figure out how to defrost it. Squid expert Dr Steve O'Shea, who will be studying the creature, said it was weighed last week while it was still frozen in a large container. “It is 495kg. It is even heavier than we thought,” Dr O'Shea said. The weight of the colossal squid, caught by fishermen on a longline in Antarctic waters in February, makes it 195kg heavier than the previous record-holder, a 300kg squid of the same species found in 2003. The colossal squid is a species much heavier but shorter than



the better known giant squid. Dr O'Shea said the colossal colossal was priceless to scientists, and would be worth many millions of dollars if it were insured. Meanwhile, the scientists have yet to decide how best to thaw out the colossal squid, which was frozen into a container soon after it was captured. Dr O'Shea said more than 426 people had so far telephoned to suggest how to defrost the squid. Scientists may use some sort of giant microwave, he said. "Obviously not a Fisher and Paykel commercial grade thing, but there are certain microwave equivalents that are used by industry for treating timber and the like that we could probably fit this thing into, so that is one option. "Someone told me that could probably do it in a couple of minutes to an hour. But that is just one option. We want to make sure we use the best process," he said.

He said it could not simply be left to defrost at room temperature, because it would take four days. By then the outside would have rotted while the inside was still frozen. The squid is being housed in the Museum of New Zealand Te Papa Tongarewa in Wellington."

Source: <http://www.news.com.au/adelaidenow/story/0,22606,21426583-5005962,00.html>

### **'SCUBA DIVING' COWS**

As mentioned in our April news sheet, ABC TV's "Landline" program which aired on 15<sup>th</sup> April reported: -

"agriculture contributes about 13% of Australia's greenhouse gas emissions. Much of the gas from agriculture is methane. Even though it comes from sheep and cattle, it can be more harmful than carbon dioxide. Now, a team of Australian scientists is trying to reduce livestock emissions by 20% by the year 2012."

"Every day these cattle belch and fart the equivalent of a 44-gallon drum of methane into the atmosphere."

"Something like 96-97% comes out the front end. That's why our collection system is pitched to the front end rather than the back end."

"Dr Hegarty and his team of researchers from the NSW Department of Primary Industries measure the output of methane from a sample of cattle."

"Methane production is a wonderful thing because it gets rid of the exhaust gas from their digestive system which is hydrogen, converts to methane and gets burped out."

"So they produce it as a normal end product, a way of getting rid of hydrogen that is associated with the fermentation of all the food in their stomach."

"Roger Hegarty is outfitting some of these Angus steers with a methane measuring meter."

"The halter is there to try to get a sample of the air somewhere near the nose of the animal, where it's being breathed or burped out where the concentration of that tracer gas and methane are quite high. And that, of course, links to the third part of the system which is the collection tank on the back. The collection tank is continuously sub sampling for maybe 48 hours, about a ml a minute of this gas from near their nose. And out of that collected sample we get the ratio of methane to tracer gas and so can work out methane production."

"Looking like bovine **scuba divers**, these cattle are kitted out with their methane canisters. They're now free to belch and burp to their hearts' or stomachs' content. The methane emitted by the animals rises up into the atmosphere, helping to make the

agriculture sector Australia's second largest greenhouse gas polluter after the energy sector.”

“As a greenhouse gas it's effectively 20-21 times as strong as CO<sup>2</sup>. There is a lot less of it, of course. But, from Australia's emission perspective, the big source of methane is belching sheep and cattle. And something like two-thirds of all the methane produced in Australia comes out of burping livestock. So it's a big deal.”

Source: <http://www.abc.net.au/landline/content/2006/s1897018.htm>

## **MORE FROM “LANDLINE”**

### **FARMED ABALONE**

Whilst discussing “Landline” topics, farmed abalone featured on the program on 1<sup>st</sup> April (No Joke!). The item was titled “Abalone: the treasure of the sea”. Sally Sara introduced the segment by saying: - “The Chinese know them as 'the grazing cow of the sea' and prize them for their health benefits. So it's little wonder that farmed abalone is in high demand. While up to 90% of Australia's abalone is harvested in the wild, the farm sector is growing quickly. Abalone feedlot operators are hopeful that, with innovative breeding and world's best technology, they'll be able to overtake the wild harvest within five years. Reporter Sean Murphy then proceeded to give details about farmed abalone. Visit <http://www.abc.net.au/landline/content/2006/s1884653.htm> for more details.

### **WA SHARK FISHERY**

The WA shark fishery featured on the “Landline” program on 15<sup>th</sup> April. The item was titled “Shark fishermen fight to maintain industry”. Sally Sara introduced the segment by saying: - “For generations of Australians, a serve of fish and chips has meant eating shark. But with the collapse of shark fisheries around the world, Australia's own catch is now under growing scrutiny. Shark fishermen in the south of Western Australia are fighting to maintain their industry, despite dramatic cuts. But critics say that restrictions should be tightened even further to protect sharks in the same way as dolphins and whales. Reporter Sean Murphy then proceeded to give details about the fishery. Visit <http://www.abc.net.au/landline/content/2006/s1896984.htm> for more details.

(Here is a “Farm Fact” mentioned on the web page: - “In 2004, the Commonwealth Government established the National Shark Action Plan to help with the management and conservation of Australia's shark Resources.”)

The Scuba Divers Federation of SA is a member of the following: -

Rapid Bay Jetty Design Group

SARFAC (SA Recreational Fishing Advisory Council)

Fleurieu Reef Management Committee (Ex-HMAS *Hobart*)

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

Contact the Federation's Secretary on [info@sdfsa.net](mailto:info@sdfsa.net) to be included on the mailing list for this electronic bulletin.

Disclaimer – The opinions expressed by authors of material in this bulletin are not necessarily those of the Federation.