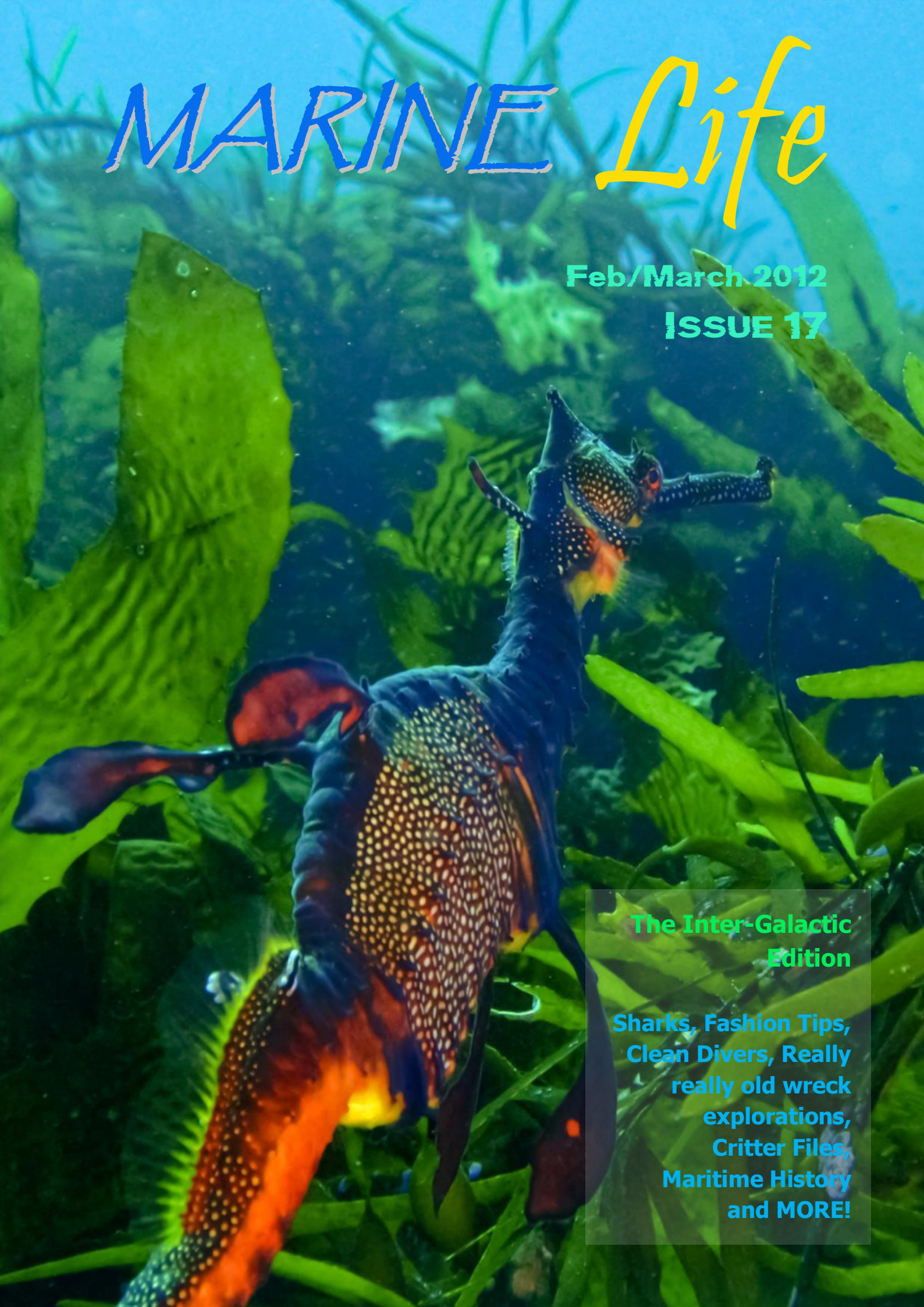

MARINE Life
Feb/March 2012
Issue 17
The Inter-Galactic Edition
Sharks, Fashion Tips, Clean Divers, Really really old wreck explorations, Critter Files, Maritime History and MORE!

Marine Life magazine

Our Goal

To educate, inform, have fun and share our enjoyment of the marine world with like-minded people.

The Editorial Staff

Emma Flukes, Co-editor, mother to all algae.

Michael Jacques, Co-Editor, "But more wonderful than the lore of old men and the lore of books is the secret lore of ocean..."- Oh, stop Googling Michael, and do some work.

Geoff Rollins, A wet version of George Clooney - minus the suaveness, silver hair and millions in the bank.

Phil White – "I got the music in me", would open a music venue at 25 metres but the leatherjackets always start a fight and spoil it.

Disclaimer: The views expressed in this publication are not necessarily the views of the editorial staff or associates of this publication.

We make no promise that any of this will make sense.
marinelifetassie@gmail.com

Cover Photo ; Weedy Seadragon; Emma Flukes

We are now part of the wonderful world of Facebook!

Check us out, stalk our updates, and 'like' our page to fuel our insatiable egos.

Contact us:
marinelifetassie@gmail.com

EXCITING ANNOUNCEMENT **- *What's New about News***

Our website (whenever we finally get around to finishing it) is inevitably going to make the magazine more accessible across Australia. We already have a few mainland and international subscribers and it is growing rapidly, more rapidly than our local readership. Even Tasmanians are sending us stuff they have gathered on 'Big Island' trips and there appears to be interest in some 'bigger picture' happenings as well as events in our own little back yard.

We intend to keep the magazine news 'local' and loveably amateurish, mostly about things happening in the colder parts of the Antipodes that aren't well reported elsewhere. Because we are Tasmanian divers we imagine it'll still end up being 'that Tasmanian rag', even if we don't consciously intend it.

Antarctic & Southern Ocean News

New Species -the "Yeti Crab" likes it hot!

In 2010 a robotic vehicle explored the East Scotia Ridge between Antarctica and the tip of South America in 2,400-2,600 metres.

New species discovered included a seven-pronged starfish, a mysterious pale octopus and a new kind of 'yeti' crab.
They live near hydrothermal vents, deep-sea springs spewing liquid at up to 382 degrees Celsius.

Here the ecosystem gets energy not from the Sun, but from breaking down chemicals like hydrogen sulphide. Researchers were equally intrigued by what they did not find - including many of the giant worms, vent mussels, crabs, clams and shrimp that have been found before at other deep sea vents. Fish were also uncommon. The uniqueness of the species suggest that it's hard for animals at these vents to move around to other distant vents.

Marine Protected Areas in the Southern Ocean

The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) has finalised a conservation agreement, the first step towards establishing a representative system of MPAs in the Southern Ocean. The Gillard Government has welcomed the decision.

In 2009 CCAMLR agreed to work towards a representative system of marine protected areas within the Convention Area. That same year, the Commission declared its first marine protected area south of the South Orkney Islands.

Australia and France have already begun work towards establishing a system of marine protected areas in East Antarctica.

Debate over protection of the Ross Sea

The continental shelf and slope of the Ross Sea has been described as one of the last remaining stretches of ocean on Earth that has not been harmed by human activity. Over 500 scientists have signed a statement calling for extensive protection for the Ross Sea.

The Ross Sea provides a habitat for a diverse array of benthic and mid-water species, but most importantly, unlike all other portions of the world ocean, its top predators are still abundant.

It has 38% of the world's Adélie penguins, 26% of Emperor penguins, more than 30% of Antarctic petrels, 6% of Antarctic minke whales, and perhaps more than 30% of "Ross Sea" killer whales. Moreover, it has the richest diversity of fishes in the high latitude Southern Ocean.

Although relatively remote and inaccessible by ship for most of the year, the Ross Sea is attracting more interest from commercial fishers. The Ross Sea's valuable toothfish populations, sometimes called Chilean sea bass, are still abundant. This slow-growing species takes eight years to reach maturity, and can live for fifty years. Toothfish fisheries elsewhere have collapsed due to overfishing and are no longer commercially valuable.

Current CCAMLR plans for the expansion of the toothfish fishery will reduce the population to 50% of its current size within 35 years. No one knows if a long-lived species such as toothfish can sustain this level of harvesting. Additionally, illegal fishing is a problem in the Southern Ocean and can make population estimates and catch limits essentially meaningless.

The nation currently gaining the most from the fishery is New Zealand which has had a mixed reaction to the plan.

Tasmanian News

(photo The Mercury)

Summer Boating Accidents Increase

Marine And Safety Tasmania says three accidents along the East Coast were a result of people are taking small vessels too far out to sea. There were also a couple of incidents at Ansons Bay and also at Scamander with people taking boats out over the bar-way.

"From what we can gather, they weren't boats that were suitable for that particular type of venture and also the conditions weren't right. "

Rewards for Lost Shark tags

Researchers are hoping locals will find three important shark tags and are offering $100 reward for each tag. The tags were attached to five female broadnose sevengill sharks – one of the most common predators in Tasmania. Two popped up far offshore, but three are in Fredrick Henry or Norfolk Bay and researchers are hopeful of finding them.

They measure light, temperature and depth from sunrise to sunset, and will help us to find out where the sharks go. The tags have already transmitted information via satellite; however it is far less detailed than what is actually stored on the tags. The tags themselves are able to provide dive profiles second-by-second. The tags are labelled with information about returns.

South Australian News

SA - Fishers net bigger lobster catch

The South Australia Rock Lobster Advisory Council says this season's catch is already bigger than last season. "Catch rate I guess is a key indicator for the performance of the fishery and that drives the harvest strategy that we've got in place for the fishery as well, so having that information later on in the season is a critical factor in where we'll sit at the end of the season," he said. "Fish size again is good, I would be definitely keen to see what the undersize figures are doing for that zone as well but all the reports we're having are fishers are having good undersize particularly in their research pods which is a fantastic sign."

However, according to South Australian Research and Development Institute (SARDI), southern rock lobster numbers in South Australian fisheries are predicted to remain the same, or drop within the next five years. They have been monitoring numbers of puerulus, which is

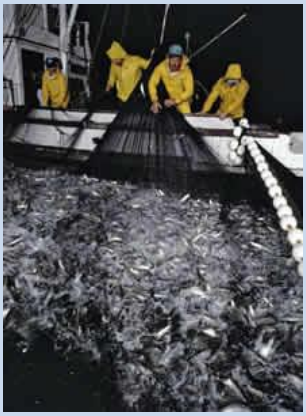
the larvae form of the southern rock lobster. Fisheries have had high catch rates this season, but recent observations show a lower number of puerulus at present. Dr Adrian Linnane from SARDI says the industry should pay close attention to the predictions. "I guess the advice to industry and managers is we've had a recruitment pulse but we need to protect that recruitment pulse in the coming years," he says.

Environmental restrictions are "hampering" commercial gillnet fishers

The Australian Fisheries Management Authority has introduced restrictions on a trial basis to protect sea lions and dolphins. A conservation zone has been set up from Robe in the South East to Kangaroo Island. The fishermen say it will force many fishers to leave the industry and say they should be allowed some access to the banned areas.

"We had to venture a lot further distances and areas which are not as productive, so obviously our running costs of our vessels have jumped enormously." The industry employs about 100 people in South Australia. About 15 boats catch mostly gummy shark.

Study states that Sardine Fishery is sustainable



A seven year South Australian Research and Development Institute (SARDI) study has found that the rapid growth of the South Australian Sardine Fishery since 1991 has been achieved without adversely affecting the surrounding ecosystem. The study was prompted by concerns about the ecological implications of the fishery's development in the eastern Great Australian Bight. Various groups were concerned about the potential impact on southern bluefin tuna, seabirds such as crested terns, short-tailed shearwaters, New Zealand fur seals and common dolphins. The $2.5m study looked at the role of sardines in the region's food web.

The sardine fishery grew from nothing to eclipse all other Australian fisheries in just 18 years. The sardine fishery is Australia's largest by weight with around 30,000 tonnes harvested annually, mostly to feed farmed tuna. Assoc Prof Ward, has led the research program and said that SARDI assessments estimate the total sardine population in the eastern Great Australian Bight at around 200,000 tonnes. The exploitation rate of 15% of the spawning biomass is considered well below the internationally accepted boundaries.

"This study shows that South Australia's pelagic marine ecosystem is in good health. The evidence suggests that the precautionary approach to management that the sardine fishery

has taken, is achieving its goal of ensuring ecological sustainability," he said.

South Australian Sardine Industry Executive Officer Paul Watson said, "the findings in this report will give industry immense leverage in the future should it wish to pursue accreditation as a sustainable fishery from global organisations such as Marine Stewardship Council or similar."

Lost Ship's Bell returns to Adelaide

The bell from one of the state's most significant shipwrecks, the wheat carrier *SS Clan Ranald* , is returning to South Australia after nearly 40 years. She sank off the southern Yorke Peninsula in 1909, killing 40 of its 63 crew in what was one of the worst maritime disasters in South Australian history. Felice Cooper, one of the team who discovered the wreck in 1962, found the bell lying on the sea floor by the ship on that first dive, so she brought it up. She has now donated it to the South Australian Maritime Museum. The bell had long been thought to be lost. Ms Cooper has travelled from Queensland to Adelaide to present the bell to the Museum at this weekend's Annual General Meeting of the Historical Diving Society of South East Asia and the Pacific.

New in New South Wales

Debris can be fatal

The NPWS Marine Fauna Program has said that a dead humpback whale that drifted to shore near Port Kembla in recent months was entangled in a rope, and most likely died as a result.

"Unfortunately we are seeing more marine wildlife suffering from the effects of becoming entangled in or ingesting marine debris, especially plastics." Seals, marine turtles, seabirds and whales are all at risk." "Turtles are extremely vulnerable to entanglement from nets, ropes and other debris."

A recent CSIRO study by Mark Carey found on average dead seabirds had 7.6 particles of ingested plastic in their digestive tracts. "Some marine debris will always occur, but I remind recreational and commercial fishers and vessel operators who use equipment on or near the sea to be mindful and secure ropes and other items very well to avoid these accidental and unnecessary deaths."

Events at the Central Coast Marine Discovery Centre

The CCMDC will be hosting a training session for its Reefwatch Intertidal Monitoring Program. The program aims to involve local community groups and individuals in long-term monitoring of our intertidal rock platforms in order to better understand what communities of plants and animals rely on these habitats, and how they change over time.
http://www.ccmdc.org.au/modules/news/

Coral health research in Solitary Islands

Solitary Islands Underwater Research Group (SURG) will receive $34,164 from the NSW Government to conduct research into the health of coral communities in the Solitary Islands Marine Park near Coffs Harbour's. This project is focused on collecting baseline data on coral health over a three year period using protocols developed by the University of Queensland. The Solitary Islands Marine Park has 96 species of 'hard corals' and form the southernmost extensive areas of hard corals in eastern Australia. The data collected will be used as a measure so that future coral bleaching events can be compared.

Queensland News

Fisherman blames cyclones and hobbyists

Commercial fishers in the Bowen region say coral trout number off the North Queensland coast are still low because of cyclones. Fisherman Terry Must [described as an NQ fishing "identity"] says the numbers of fish have particularly declined since Cyclone Hamish in 2009. He says the situation is much worse than originally thought, and there needs to be restrictions on recreational fishermen. "The recreational fisherman keep fishing, whereas the commercial fisherman, when it's not viable, he either decides to tie-up or sell-up," he says. "We've actually had a few boats go broke and are not fishing no more whereas the whole recreational sector keeps going."

Discovery of the historic shipwreck *Royal Charlotte*

A joint team from the Australian National Maritime Museum and the Silentworld Foundation have found the *Royal Charlotte* on Frederick Reef in the Coral Sea. After bringing convicts to

Australia, the *Royal Charlotte* was contracted to transport British troops to India. After leaving Sydney the vessel encountered fierce storms in the Coral Sea and ran aground in June 1825. Only one soldier and a child perished on the wreck. The *Royal Charlotte* is a significant part of Australia's heritage because of its association with the transportation of convicts to Australia and as one of a small group of early British ships that were built in India.

Gladstone Fish succumb to unknown disease

Fishermen have been catching fish recently showing severe signs of disease and many are blaming harbour dredging. The disease scare is also causing concerns about declining fish stocks. "I went out for three hours on a trawler and we caught pittance... honestly, we caught nothing," one of the fishermen said.

With the mining industry in overdrive, 112 million cubic metres of material has either been approved or proposed for dredging in Gladstone harbour. The Department of Environment and Resource Management has ordered a partial suspension of dredging because of high turbidity levels. The Greens are renewing their call for a permanent halt to dredging in Gladstone Harbour in central Queensland while investigations continue into diseased fish. A scientific report released recently could not determine the exact cause of the problem, but blamed nets, chemical damage, nutrition, parasites and bacteria as possible factors. Fisheries Queensland had found about 95 per cent of fish caught in their monitoring of the central Queensland harbour were in good health and there is no risk to humans. However, the panel also said that fish showing signs of disease should not be consumed.

Western Australia

No more WA marine parks thanks

Western Australia does not need a marine park network because its fisheries are ''some of the best managed in the world'', says Fisheries Minister Norman Moore.

Mr Moore today said he opposed federal government plans to establish a network of marine sanctuaries along the west coast and accused conservationists of trying to ''lock up'' vast tracts of ocean. This was despite rock lobster and demersal scalefish quotas being halved in recent years to prevent the collapse of valuable commercial fisheries. ''I do not support the 'lock up' of an area if other management systems and processes can be implemented to protect certain species and biodiversity values.''
University of WA Oceans Institute research professor Jessica Meeuwig said there would be no need to cut catch quotas in half if fisheries were well-managed. ''There doesn't appear to be any evidence that rock lobster are recovering,'' Dr Meeuwig said. '”There's been no published

evidence on the recovery of dhufish, baldchin grouper and these are species only found in WA. 'Of the four local shark species, two are at unacceptable levels of breeding stock".
WA Conservation Council marine spokesman Tim Nicol said ''It's really old-fashioned thinking that you can't have marine sanctuaries and a fishing industry at the same time.'' WWF marine manager Paul Gamblin said while fish stocks needed to be managed, other marine life also need protection. ''It's not locking up large areas, it's looking at a proportion of important habitat that needs to be protected for all species,'' he said.

Marine Barcoding of Life project (MarBOL)

WA Museum project officer Clay Bryce says the survey focused on molluscs in the South West because there are many short range endemics and micro molluscs that haven't been officially catalogued [Ed - same everywhere mate].

"If you've got short range endemics it means they occur nowhere else in the world and have a very limited geographical range...".

Scientists from MarBOL and the WA Museum surveyed mollusc friendly areas in Albany, Esperance and Geography Bay, collecting molluscs, preserving them in ethanol and storing them for their journey back to Paris where their DNA will be barcoded. The barcoding will help verify species identities and link DNA barcodes to their scientific names.

This technique of species identification can be done with high confidence because barcode sequence variability has been found to be very low within species at less than 1–2%. Mr Bryce says the study will enable scientists and taxonomists to access a database full of the world's species that have already been catalogued. He says the survey in WA collected less than 300 known species, but the researchers in Paris could identify more through DNA barcoding.

New Zealand

Seal naps on couch

A baby fur seal has made its way into a New Zealand home and taken a quick nap on the couch. Annette Swoffer lives about 300 metres from the water at Tauranga on the Bay of Plenty on the North Island. She was at home on Sunday night when she heard a

racket and went to investigate. She found the fur seal curled up on the couch having negotiated a busy road, a long driveway, a fence, cat door, two cats, a dog and a set of stairs.

The pup was returned to the sea by a wildlife officer, but not before the intrepid adventurer got from the back of the car into the front and turned on the radio. It was believed the same seal w collected from a garden earlier that day and seen at a roundabout the next week.

Plans for marine farms in the Hauraki Gulf

Coastal scientist Dr Shane Kelly warns finfish farming in the Hauraki Gulf will be highly experimental. More research is needed to understand the possible effects of hapuku and kingfish farming on wild stocks. Organic loading of the seafloor is inevitable with the seafloor becoming devoid of life and emitting gases with adverse effects on plantlife and fish, a report says. Nitrates from excessive fish food and faeces could add to the nitrogen loading from agricultural runoff. Fish farms are likely to be an incubator for disease and parasites that could spread to wild fish stocks which congregate around cages. Chemicals used to combat disease and parasites could degrade the immediate area and be spread by waves and currents.

Kelly warns that finfish farming still relies on large inputs of fishmeal sourced from wild stocks, including anchovies from coastal Peru and West Africa. Though food conversion ratios are improving, a moderate estimate suggests 18,000 tonnes of wild fish would be needed to produce 5000 tonnes of farmed fish. Farms can cause entanglement of dolphins and whales but good management can minimise the risk.

Niwa is confident the site, about 20km off Coromandel township, is suitable for finfish farming. An 8000-tonne production limit is intended to keep nutrient loadings in check.

A consultancy study for the three councils claims the mussel and oyster industry employs about 430 people and contributes $31 million in GDP a year to the regional economy. Mussel and oyster farm expansion in the Wilson Bay zone alone could contribute more than $60 million and create an extra 350 jobs by 2025, while finfish farming could generate a further $34 million a year in GDP, the Sapere Research study claimed.

Any bid for large-scale mussel farming on the western Firth of Thames will encounter considerable opposition from locals concerned about the visual impacts and restrictions on navigation. Yachties say some traditional sailing grounds could be lost and the boating industry is worth far more to the region and country than marine farming, due significantly to the gulf's unspoilt nature. "Auckland is a major city with a cruising ground on its doorstep - but that's only because there's somewhere to anchor when you get there.

Maori leaders want the economic benefits but are conscious of past fish farming disasters and the gulf's sensitive status. "The last thing we want to do is start compromising the feral stock.

But we have some really good people giving us the science advice." For more see http://www.marinenz.org.nz/index.php/news/

Wrecked cargo ship spilling oil

The cargo ship "Rena" that ran aground on a New Zealand reef three months ago began sinking into the ocean recently. The front 30 meters (100 feet) is still above the waterline, but the back section and the bridge are all under the water. There is plenty of wood, plastic and other debris floating around the sinking stern section. About 150 cargo containers have spilled into the sea since the weekend, with more than 800 still aboard. Cleanup teams were prepared if oil or any items washed ashore on the New Zealand coast.

In the days after it ran aground, the Rena spilled about 400 tons of fuel oil, fouling pristine beaches and killing thousands of seabirds in what has been labelled New Zealand's worst maritime environmental disaster. Maritime New Zealand estimates that less than 100 tons of oil remains on the ship. The wreck is on Astrolabe Reef, 14 miles (22 kilometers) from Tauranga Harbor on North Island.

Global CSIRO news

CO_2 is still rising

The Global Carbon Project (GCP) published its annual analysis reporting that the impact of the GFC on emissions has been short-lived owing to strong emissions growth in emerging economies and a return to emissions growth in developed economies. Coal burning was at the heart of the growth in fossil fuel and cement emissions accounting for 52% of the total growth.

The atmospheric concentration of CO_2 in 2010 rose to 389.6 parts per million, the highest recorded in at least the last 800,000 years. Dr Raupach said the 2010 figures represent the highest annual growth recorded, and the highest annual growth rate since 2003.

Oceans animals have to adapt fast

It was thought that marine life in the ocean could respond more gradually than species on land because of slower warming in the oceans.

“Analyses of global temperature found that the rate at which marine life needs to relocate is as fast, or in some places faster, than for land species. This is despite ocean warming being three times slower than land”

She said that a one degree change in ocean temperature may mean that marine plants and animals will have to travel hundreds of kilometres to stay in their comfort zones. This can present major problems for marine organisms, particularly those that are unable to move long distances such as corals. On the land, especially in mountainous areas, this change can be found in shorter distances. Life will also need to move reproduction to earlier in the year, more so in the ocean than on land.

The study also identifies patterns of climate change are not uniform, with regions warming and some even cooling at different rates. For example, large areas of the Southern Ocean are cooling and shifts in the distribution of marine life away from polar regions are expected.

New approach to sustainable 'forage' fishing

Reduced catches of small oceanic 'forage' fish like sardines and anchovies may be required in some ocean areas in order to protect the larger predators that rely on these species for food. This is a finding of the first major study of the ecosystem effects of fishing forage "Forage species such as anchovy, sardine, herring, mackerel and krill often are the main food source for larger predatory fish, marine mammals and seabirds," Dr Smith said. "They account for more than 30 per cent of global fisheries production for use directly as human food and indirectly in livestock feeds, and demand is rising."

Previous studies have raised concerns about the flow-on effects on seabirds of forage fishing off Peru and South Africa and in the North Sea, and of rising krill catches on whales in the Southern Ocean. "We found forage fishing had large impacts in the five areas studied (the northern Humboldt, southern Benguela and California currents, North Sea and south-east Australia). "These impacts were both positive and negative, and varied across forage species, ecological groups and ecosystems.”

Some ecological groups declined by more than 60 per cent as a result of forage fishing at conventional levels. Marine mammals and seabirds were often affected.
"The modelling showed that halving fishing rates for the high-impact species would greatly reduce the impact on ecosystems, while still achieving 80 percent of the maximum sustainable yield," Dr Smith said. "This reduced level of fishing could improve economic outcomes for forage fisheries while also improving yields for some other commercial species."

He said these results could be combined with other management measures, (such as closing areas near marine mammal and seabird breeding colonies to fishing), to achieve ecological objectives while ensuring forage fish continue to contribute to global food security.

Feedback Corner

We love feedback of any form, even if you violently disagree with something we have written. Honestly. It shows we all care :-)

Discord over MPAs *[re an article by MJ, Marine Life Dec11-Jan12, see link here]*

This article attracted some interest and one scientific person was very strongly opposed to the thrust of the article, labelling it as "biased" and "against science" [although they do not wish to be named or quoted in full].

MJ's Response - I assume this meant the discussion went against the particular views of that scientist, so it that sense it was 'against science'. My bias was up front, obvious and stated for all to see. I don't bother trying to pretend that my opinions are divorced from the reality of the society I grew up in, or the culture of the institutions that I engage with.

I should be more worried that this magazine might be "against science", especially as we are one of the few publications pitched at the general public that bothers to write regularly about marine science 'stuff'. This realisation might quash all the ideas I had for turning the rag into a refuge for climate change sceptics and creationism...Damn!

A more measured response from another scientist made the valid point that disagreement is normal in the process of scientific debate and not everyone agrees all the time. They would probably being doing it wrong if there was too much agreement all the time and you can't make everyone happy.

Another fisheries management person made a positive contribution by referring me to an article that further explains the fisheries management view on that subject. Unfortunately, I'm a cheapskate and it's a paid access article. I can only include the abstract, and I'm very happy if you take the time to access it in full and come to your own conclusions. The only thing worse than a divisive debate, is no bona fide debate at all.

Please see an alternative view at; "Questionable interpretation of the Precautionary Principle in Australia's implementation of 'no-take' marine protected areas" by R. Kearney, C.D. Buxton, P. Goodsell, G. Farebrother. You can view the abstract at http://www.sciencedirect.com/science/article/pii/S0308597X11001692

Shark Scares *[re an article by Emma, Marine Life Dec11-Jan12, see link here]*

I recently read a very passionate article about shark-related deaths in WA. As a result of that article I had a few questions. Statistically, isn't it a bit odd that three deaths occurred so close together in both time and space? Isn't that a bit abnormal? If the second one was a coincidence, what do you call the third one?

I also read recently that sharks come close to the WA coast during the whale migration, and the visibility underwater is also bad then. Were these early spring swimmers taking more risks than later swimmers? Perhaps it was an unhappy coincidence, or maybe we don't fully understand the risks? Maybe we need more research?

Thinking that I am very rational and understand the statistics, I went for snorkel dives in the WA South West straight after the attacks. However, when I got in the water I have to confess that I needed an incontinence diaper. Even the thought of meeting big sharks is pretty scary, even to numerate people. It's the primeval sense of helplessness that makes it more fearful. In the old days divers carried powerheads to overcome that sense of helplessness, even if they were statistically more likely to kill themselves than attacking sharks.

You also compared the threat of sharks to the threat of furry rodents, powerheads are much more easily deployed against hamsters and they are wimps really.

If recent fisheries measures work as intended, big sharks will increase in numbers. So will the seaside human population. Eventually we will learn to live with the risks as they do in places like South Africa (where big shark sightings happen every other day). The government has obviously sensed that in the meantime it will be forced to hand out free four-leaf clovers, or undertake some other public confidence measure even if it seems statistically futile. I think we are up for the costs or the hot heads will use the 'nuclear options' instead.

I would support passive measures like fenced bathing enclosures and helicopter flights even if they defy logic and are a waste of money. I suspect parents want know they have access to safe bathing for kids regardless of the stats.

The most surprising thing about your article was that the government seemed to be so sensible about the agreed strategy. I think this is the REALLY exceptional event that defies recent statistics. Good work, enjoyed it, keep it up!

- Derpy Derpina Jnr

Editor: *A very good summary on ABC news radio recently had a SARDI scientist talking on the stats of shark attack. We can't find the transcript, but he said there were a cluster of 3 attacks in Sydney in 2008 (perhaps coincidences can happen), but still as a stat over longer time scales attacks were not more frequent in that area overall. Depends on what time period you chose to do the sums over.*

The stats show that sharks numbers are in decline, but numbers of humans in the ocean is up dramatically, this may well explain the higher attack averages over some time scales. Thanks for your feedback, Derpina. We hope that adult diaper worked out for you.

East Coast Shark Sightings – The Wrong Focus

- by Mike Jacques

This is a shark sighting photo from Bridport – the exciting thing is that it's actually a rare and harmless thresher shark; photo Panoramio

One of world's great natural spectacles is the baitfish run along the East and North-East Coasts of Tasmania. It's a cavalcade of seals, dolphins, seabirds, predatory fish...and shark scares.

In Summer, there are schools of bait fish along the coast and these are attacked by large schools of Australian, or 'cocky' salmon and couta. The salmon attract sharks, including Bronze Whalers and smaller Blue Sharks. They press the massive swarms of fish against the sandy shores and headlands, and the sharks are particularly visible in shallow and sandy Anderson's Bay and Ringarooma Bay.

Sharks will come close inshore and are often seen by light plane pilots, even cruising along the surf zone only metres away from swimmers. Apparently aggregations of up to seven or eight sharks in a single group are common even at the popular beaches of Bridport, but they are rarely seen by swimmers. They are also often noticed around Waterhouse Point.

In January 1960, the increased number of light plane enthusiasts pointed this out to the media for the first time. This caused headlines when previously it had been an unremarked local event. People abandoned the popular beaches. Men set out into Anderson's Bay in boats to shoot sharks located by spotter planes.

Mick Olsen of the CSIRO tried to point out they weren't after humans, but the regular sightings sparked a number of smaller shark scares in the ensuing years. By 1980, we appear to have

got the CSIRO message and a report of 17 sharks feeding inshore on couta didn't cause anything like the same concern.

On 4th Jan this year, sightings of a shark off Gofton's Beach at Bridport prompted a search and temporary beach closures. Other shark sightings off Rocky Cape and Taylors Beach have tended to feed into a rediscovered enthusiasm for shark stories. Even a sighting 50km off Port Sorell made it into the papers. These media reports have sparked a lengthy aerial survey of the St Helen's area. Despite the active seeking out of sharks, interestingly, there were no further sightings. This is hardly evidence of a spike in local shark numbers.

What we seem to have missed in all this is that the sharks are always there and are always active inshore in summer chasing fish. We have given in to fright, and have missed the wonder of this amazing natural event. There is a huge explosion of life along our coasts, that's the real spectacle. In future editions we will explore this feeding frenzy, but in less frenzied terms.

5 Minutes of Fame for Clean-up Divers

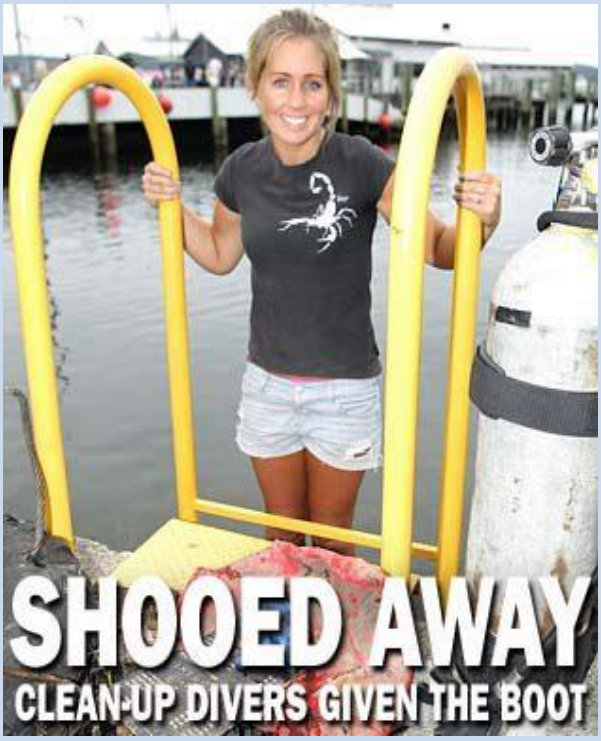
- by Emma and the internet

Recreational divers around the state were given a spray of media attention in recent weeks, following a slightly unusual twist to the routine "diver picks up rubbish discarded overboard by drunk/lazy yachtsman" story.

Earlier this month, the Tas Uni Dive Club conducted their annual underwater clean-up of the area under Princess Wharf I following the Taste festival. With such a huge increase in usage of both the wharf and surrounding water area due to large public events, festive celebrations (read: drunken revelry), racing yachts etc, inevitably a large amount of trash (and treasure) ends up going overboard and festering away in the mud under the docks. A team of 13 divers from TUDC and TSDC descended on the site and began to ferry rubbish to the surface. Less than an hour into the clean-up effort, the surface support crew was approached by construction workers on the site who demanded that they vacate the area. Despite having written approval from both Hobart Ports Authority and Hobart City Council, workers on

Low-visibility wetsuits were a bad choice for clean-up divers.

the site required the divers to have hard hats, closed-toe shoes, high visibility vests, site inductions, and white cards (to name just a few). Unsurprisingly, this wasn't a standard component of anyone's dive kits and so the crew cut short their efforts and high-tailed it off the site.

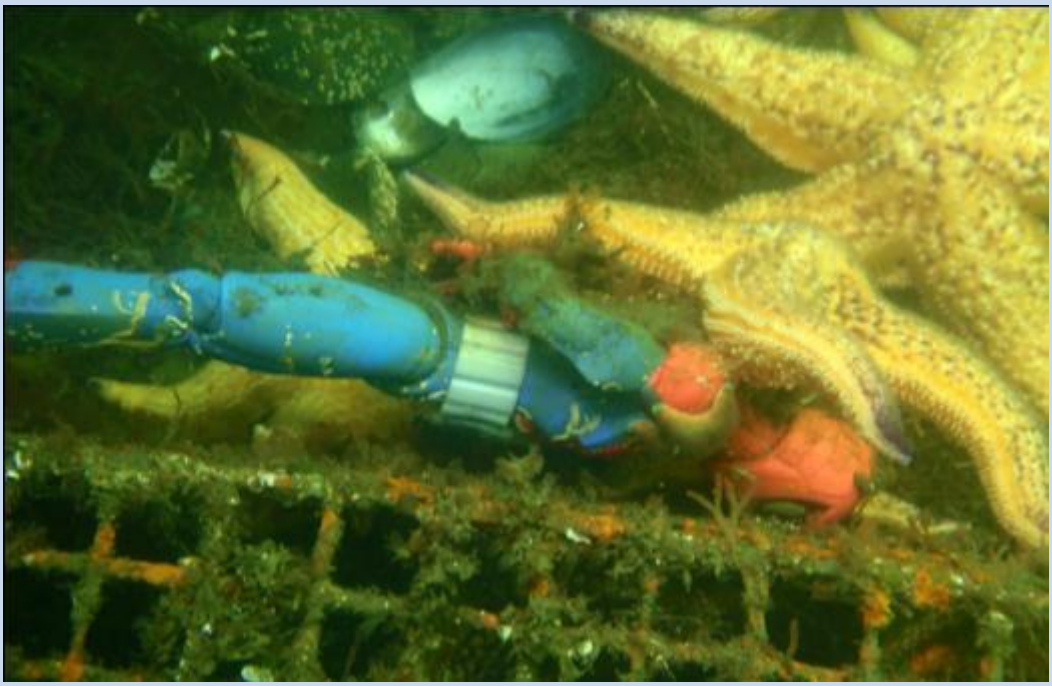


Apparently there weren't any stories about snow on Mt Wellington or choices in male swimwear fashion to make front page news that day, and the bureaucratic oversight resulted in some star treatment by the media. I'll admit to being more than a little nervous about the potential public backlash following the media blowout – after all, everyone was just doing their jobs (except whomever was responsible for the rather large failure in communication to the site workers). The general consensus was exceptionally supportive though, with nobody ridiculing the Uni crew for their typical student disregard of proper clothing. The online Mercury news article attracted over 30 public comments, in addition to several angry Letters to the Editor ranting about the red ticker tape world we live in.

Thankfully this story has a fluffy happy ending with the TUDC kids returning to finish their clean-up two weeks later, this time well away from the dreaded construction site of PW1. All in all several hundred kilos of rubbish were dragged out of the festy docks sludge. Items ranged from the usual suspects of tyres, bottles, cans, plastic and shopping trolleys to a few novelty finds such as street signs, mobile phones, wallets, flags, Dunlop Volleys and some snazzy Dame Edna sunglasses.

Photo from The Mercury website

If any of you environmentally-minded readers would be keen to participate in these sort of dives either underwater (if trained) or via surface support, send the Tas Uni Dive Club an email at tasunih20@gmail.com and get on board the next clean-up event. In the meantime, don't forget to wear your high-vis vest at all times when leaving the house. The world is a dangerous place…



Trash talkin'

More exciting reading on the clean-up events and the raging public responses can be found on The Mercury website:
http://www.themercury.com.au/article/2012/01/08/290675_todays-news.html
http://www.themercury.com.au/article/2012/01/23/294621_todays-news.html
With ABC coverage as well, we must be famous! http://www.abc.net.au/news/2012-01-22/divers-clean-up-waterway/3786958?section=tas

George III Rock

Text by Mike Jacques, Photos; Rob Perry, Janine McKinnon, Ren Lim, Adriaan Van Huissteden and Mike Jacques

So, Marine Life Magazine does dives hey? As we have a brief to educate people, why not do it on-site at some fun ocean spots in Tassie. We have tried dry land events before, not always with high levels of interest, but the divers among you seem keen to get wet if the spot is a bit different and exciting. This doesn't mean we are trying to be a dive club, we are interested in education for all rather than recreation for divers, and these events are likely to be sporadic.

Why George III Rock? This area was selected in 1985 to be a scientific reference area for abalone and it was closed for fishing. Even anchoring over the reef is prohibited. Some of the locals may not always be aware of, or respect those rules, but we thought it might be exciting to visit a place that should be in close to its natural state. It also has an interesting historic wreck.

A study haven for abalone, Rob Perry

DPIPWE was very helpful in granting a permit and we soon had 3 boats lined up with readers from the magazine. Special thanks to Janine and Ric, Adriaan and Ren for providing their boats.

The trip out passed some spectacular coastal scenery that was a treat in itself, as was the sight of a massive kelp forest marking the location of the reef. Rather than a rock spire, George III reef is a flat, football field –sized dome of rock with one prominent 4m bommie.

Being pretty smooth and free of major gullies and rocky bommies, a reef like this would normally be blasted bare by the force of the incessant southerly swells. These swells are created by the Roaring Forties trade winds and circulate around the globe without interruption from major land masses until they hit the West Coast of Tasmania. The southern entrance of the D'Entrecasteaux Channel is much more sheltered, but still gets hammered occasionally from the residue of these stormy swells.

However, there was still a lot of delicate life on the rocks. The huge canopy of kelp is probably moderating the effect of this swell and softening the intense light that would normally bathe such a shallow reef. This allows shade-loving plants and delicate encrusting algae to colonise what would normally be smooth reef dominated by low bushy seaweed. The giant kelp canopy also provides cover for schools of fish that patrol the reef like flocks of birds in a forest.

In 1982, I started diving at a time when Tasmania's East Coast was covered by massive kelp forests. These forests were cluttered with huge schools of patrolling Bastard Trumpeter. They were so much a part of every Tasmanian underwater experience that they were iconic, a bit like wallabies and gum trees on land. Now 95% of the kelp has gone and we get excited if we see a kelp 'bed' with 6 strands in it.

Biscuit Star Tosia Australis; R.Perry

This has most probably been caused by the unusually warm currents that have been sweeping the East Coast. These warm tropical waters are poor in nutrients and kelp 'hates' it. Instead they love the nitrate rich southern waters that have been turbo-charged by winter storms, storms that push nutrients up from the seabed. Green and ikky for divers, this cold nitrate-rich current is instant fertiliser for kelp.

To find high densities of giant kelp now you have to travel to sewerage treatment plant outflows, or if you aren't into that,

Tasmania's far south. Here the effects of the hot Eastern Australian Current are still weak in our warming world, at least for now.

At George III Rock there is so much kelp that it lays along the surface in vast rafts. Diving under these fronds and resting in the dappled half-shade of a truly giant Giant Kelp bed reminded me of the 'good old days'.

Sure enough, where the kelp was thick, we also saw large schools of Bastard Trumpeter. I also saw Sea Sweep, a Bass Strait fish that is penetrating further south as the East Coast waters warm. It was a grand day out for photographers and like a trip back in time for me.

We surfaced to reports that Adriaan had found a piece of the wreck of the George III jammed down in the rocks near a dangerous bommie. The George III was a convict transport with a dark history. She ran into the bommie on a dark night in 1835, and gave her name to the surrounding reef. I'd heard there was little left, apart from the ship's stove, but we only found a large strip of lead and one big piece of iron. Not a bonanza of relics, but at least we can say we saw it.

Relics of the wreck

Long-finned Pike and Trumpeter patrol the dangerous reef

Changing a wheel bearing is both entertaining and a breeze with Adriaan on the tools, J. McKinnon

Dives over, we finished the day safely and retired to the tavern for a few yarns. We were to take home some great memories, and only had to leave behind one of Rob's fins and some of Adriaan's burnt-out trailer bearings. All in all a grand day out.

Amy's Guide to being SERIOUSLY Super Cool this Summer

It's 2012, and it's time that marine people discovered (as Amy has) bling and other cool stuff.

Diving Weights

'Bling' weights - cool

OK

Very uncool

New Wetsuit designs

Neoprene hoodie - funky

Fashion mistake

A bit boring

NO WAY!

Helmets and masks

Totally retarded, why did they make it?

Looks like really bad special effects from 1970s movies

It's cool and has purple matchy matchy

Has a camera! It's pretty useful looking but at the same time super stupid.

Fins and booties

Heaps epic. I need some fins, maybe I should've asked for some for Chrissie!!!

Wow these DVD fins should be made, swimming and listening to music two of my fave things!!!

Boats

Coooool, Pimp My Ride for boats!!!

I wouldn't want to be caught paddling one of these babies!

I am super jealous of whoever has one of these!

Maybe everybody should paint their boat like this…

Exactly Five Miles from Anywhere

- by Phil White and Mike Jacques

The planned Marine Life Magazine dive to Barrenjoey fell over due to shark scares, but an informal arrangement did go ahead on Five Mile Reef with a few of the Leven Scuba Club crew and some regulars from Canoe n' Surf in Devonport.

That day the crew had close to 30 metres visibility in lovely 18 degree dark blue water and "the experience was very reminiscent of diving a coral reef".

Five Mile Reef is a football ground-sized reef about five miles (or 6.5 km) offshore from Pt Sorell. Its about the only big reef in that part of Bass Strait. The weed-covered top of reef is in 26M, and in places and can get to around 48M. The western side of the reef has some steep rocky walls, holes and wide gullies. It has some of the most diverse reef structure on the Central Coast and has fantastic fish life.

It is covered with invertebrate life and algal growth but the fish are a major attraction and include large numbers cod, wrasse, gurnard, leatherjackets, sergeant baker, perch, old wife, morwong and the other usual Bass Strait species.

The fishos report that baitfish often shows up around the reef and attract squid and couta at different times. Seals are often seen sunbaking nearby with albatrosses floating alongside. Occasional snapper and kingfish have also been seen according to some sources.

The reef is well known amongst the fishing crowd and has been heavily potted in the past. Crays are a bit thin on the ground, as they are all along the Bass St coast. It's not often visited by divers, but seems to be attracting some interest of late as its scenic quality is recognised.

The big news was that Phil White found a black urchin, *Centrostephanus rogersii* on the reef which has been reported to the University of Tasmania. This invasive NSW urchin has been wreaking havoc along the Tasmanian East Coast, eating many areas of reef down to bare rock. It's sad to report that they now also appear to be trying to establish themselves in Bass Strait.

Critter Files

The Dreaded Bluebottle

As we speak, tens of thousands of bluebottles are being washed up on the beaches of eastern and south-eastern Tasmania.

The bluebottle is not a jellyfish but a colony of individual animals called a siphonophore. Its a bit like a floating bee hive in that sense.

The Portuguese man o' war is composed of four types of polyp. The gas-filled sail (pneumatophores) remains at the surface, while the other three polyp types are submerged. The other types of polyps have specialised roles, dactylozooid (defence), gonozooid (reproduction), and gastrozooid (feeding). The long tentacles trail through the water hoping to bump into prey, and each tentacle has venom-filled stings (nematocysts) which and kill small sea creatures such as small fish and shrimp.

The Portuguese man o' war is often found with a variety of other marine fish, including clownfish. A small fish, *Nomeus gronovii* (the man o' war fish or shepherd fish), is partially immune to the poison from the stinging cells and can live among the tentacles.

The man o' war has no means of propulsion and is moved by a combination of winds, currents, and tides. It can be found anywhere in the open ocean (especially warm water seas). *Physalia utriculus*, the Indo-Pacific Man O'War is distinguished from the Atlantic Man O'War (*Physalia physalis*) by its smaller size and by having a single long fishing tentacle which is less toxic.

Men O'War are responsible for up to 10,000 human stings in Australia each summer, particularly on the east coast, with some others occurring off the coast of South Australia and Western Australia. Strong onshore winds may drive them into bays or onto beaches in thousands. Detached tentacles and dead specimens (including those that wash up on shore) can sting just as painfully as the live creature in the water and can may remain potent for hours or even days after coming ashore.

War at Sea

Seeing the reference to thousands of bluebottles being out at sea all the time in vast swarms, I know it caused you to instantly think, well who exploits that vast resource of food? Several animals have evolved to feast on this bonanza.

The loggerhead turtle and ocean sunfish's primary diet consists of jellyfish, but it can also consume portuguese men o' war. It's a common part of the diet. The skin of the sunfish and turtle is too thick for the sting to penetrate. Even more bizarre, the sea slug *Glaucus atlanticus* or sea swallow, also feeds on the man o' war. This species floats upside down on the surface tension of the ocean, with the aid of a gas-filled sac in its stomach. Scientists have often argued over whether *Glaucus atlanticus* moves on its own or depends on wind for locomotion.

The slug consumes the entire bluebottle and appears to select and store the most venomous stingers for its own use. The venom is collected in specialized sacs (cnidosacs), on the tip of the thin feather-like "fingers" on its body. Because *Glaucus* stores the venom, it can produce a more powerful and deadly sting than the Man o' War itself.

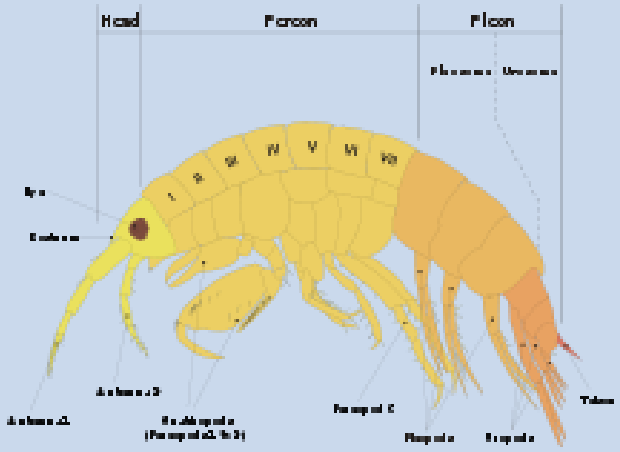
A species of snail has also taken to a life of piracy at sea. The violet snail *Janthina janthina* floats along on the surface using a gas-filled float, and ambushes any man o' war that crosses its path.

But perhaps the most bizarre of all the open ocean pirates is the blanket octopus. It's immune to the venom of the Portuguese man o' war and has been known to rip off the man o' war's tentacles and use them for defensive purposes. It also scares off other predators by spreading out the skin 'blanket' between its arms to startle any would-be attacker [works on me already].

In the octopus pirate world, the scariest raiders are females. Females can grow to over 2 meters in length. The males are only good for one thing and grow to a few centimeters in length. The bluebottle isn't totally defenceless and if it senses an attack can change from a man o'war into a submarine. To escape a surface attack, they can deflate the sail, allowing the man o' war to briefly submerge and escape.

Amphipods - Boomers of the Sea

I was swimming across the bottom with Adrian one day. Adrian is a relatively new diver and I was trying to find interesting things to show him. It was one of those moments when there wasn't much swimming by and the reef was pretty flat. Nothing to see? Well my philosophy is that if its getting "boring" that just means that you are overlooking something really important, dig deeper.



There was actually life all around. The seaweeds were locked in a battle with each other and other organisms for space on the reef. In turn they were being attacked by swarms of small critters. As I dug my head into the kelp I could see I had entered a great 'forest'. Like kangaroos in bushland, amphipod "mesograzers" were everywhere gnawing away at the vegetation and anything else that didn't get out of the way fast enough.

Amphipods are usually less than 10 millimetres long, but the books call these amphipods "big" animals, because they can be seen with the naked eye. The amphipods you will have seen most often are the beach hoppers that jump around if you pick up some drift seaweed from the beach. In fact, there are lots of different amphipods.

Around 7,000 species of amphipods have so far been described. One big suborder, Gammaridea contains more than 5,500 species although there is a lot of confusion about how many species of amphipods there really are. Amphipods can get mixed up with other small crustaceans like isopods, copepods and rhizocephalids. Amphipods live in every aquatic environment from deep ocean trenches to freshwater lakes. Some even hitch a ride inside poisonous jellyfish. Others have evolved into the lice you see on whales.

The analogy with bush kangaroos doesn't stop with their grazing habits. Mature female amphipods actually have a *marsupium*, a pouch that holds her eggs until the young are ready to hatch. There is no larval stage, the eggs hatch directly into little amphipods.

Mortality among these young amphipods is high. They form a major part of the food web. Many fish rely heavily on amphipods and other small mezograzers for food. If amphipods are the kangaroos in this marine 'bushland', then Primrose Beach's Red Handfish are the Tasmanian Tigers, mercilessly ambushing amphipods that stray too close to the seabed. Red Handfish quickly put on weight eating only these types of small crustaceans and worms. Amphipods will try anything in the way of food, but on sub-tidal reefs they often graze on seaweed. Food is grasped with the front two pairs of legs which are armed with large claws.

Studies of marine algae often measure the way they are grazed upon by large animals like fish, urchins and abalone. The way that small herbivores like amphipods affect algae is poorly understood, despite there being thousands of these smaller mezograzers on every square metre of seabed.

We know that the bigger animals like abalone and snails are better at going after the seaweed 'leaves' (drift algae) that fall to the bottom, while amphipods can tackle big erect plants. Amphipods, like browsing grazers on land, tend to like the tender and more easily digested new shoots of the seaweed. They also have to be a bit fussy about eating only the choicest 'cuts' of their favourite algae, to avoid the seaweed's chemical defenses.

Experiments show that amphipods eating a species of *Dictyota*, a tufty brown algae, actually stimulated the plant to produce a bad tasting chemical. Compared to undamaged control plants, amphipod-damaged plants had 19-34% more of these chemicals and were 50% less palatable to amphipods. This isn't always such a problem for a little guy. An abalone can only choose a different leaf on a plant to avoid these chemicals. The much smaller amphipod can literally eat around the individual poisoned plant cells and leave behind the ones with the highest concentration of chemicals.

Some scientists have even proposed that amphipods might deliberately hang around a plant that is very toxic in order to be safer from predators. These toxic plants are less likely to be visited by browsing fish. Polychaete worms, crabs and sacoglossan slugs also seem to do the same thing.

Its not a one-way street. Amphipods can also help the seaweed. Mesograzers like amphipods feed on the animals and plants called epiphytes that commonly try to overgrow the algae. These epiphytes foul the seaweed and starve it of light, decrease its carbon and nutrient uptake, and increase the drag on the plant and with it the risk of storm damage. There has been a lot of scientific debate about who is the ultimate winner out of the amphipod/seaweed relationship.

What is pretty clear is that in the marine world, the smaller you get, often the more important you are to the reef.

Photo, http://www.visayards.com/66

Behind the Teeth: Grey Nurse Sharks

-by Adriaan Van Huissteden

After having done a weeks worth of diving at Fish Rock site near South West Rocks in New South Wales, Australia (30°53’03”S 153°02’25”E), I would like to share some of my underwater photos and also teach you a few things about these beautiful creatures. Some things you may already know, and others may be new to you.

The Grey Nurse Shark (*Carcharias taurus)* can be found in may coastal areas world wide. They are know by different names in some countries, including the spotted ragged-tooth shark around Africa or the sand tiger shark around the US and UK region.

It has a fearsome appearance and very strong swimming abilities, but it is relatively placid and slow moving. It is not an aggressive shark, unless provoked. Unfortunately (in my opinion) it is one of the most widely kept sharks in public aquariums globally, due to its large size, its adaptability to captivity compared to other large sharks and its mouth full of crooked, fierce-looking teeth.

It is listed *vulnerable* on the International Union for Conservation of Nature (IUCN) Red List. The IUCN is the world's main authority on the conservation status of species. Vulnerable means that there is a high risk of endangerment in the wild. Vulnerability is mainly caused by habitat loss or destruction of habitat, but also fishing, netting and long line fishing.

The Grey Nurse has a stout body, with two large dorsal fins and the tail is elongated and has a longer upper lobe. It grows to a length of around 3.5 m (about 11 ft). This shark weighs 90 to 160 kg (200 to 350 lb). A maximum weight of 300 kg (660 lb) has been recorded. The grey nurse sharks are usually grey backed with a white underside. In August 2007, an albino specimen was photographed off South West Rocks in Australia.

The main diet of these creatures include fish, rays, squid, and crustaceans. They have also been known to eat other young sharks.

Typically they congregate in coastal ocean waters at depths of between 60 and 190 m. Often they will shelter in sand or rock gutters and caves during the day, and come out at night to feed on fish. They are the only shark currently known to gulp and store air in their stomachs in order to adjust neutral buoyancy while swimming.

Grey Nurse sharks practices adelphophagy, a form of viviparity where the embryos feed off each other. The female Grey Nurse has two uteri. Inside each of these, the young develop and eat from the yolk sac and then eat each other until there are only two left, one in each of the mothers uteri. To provide further ongoing food supply, the mother continues to produce an egg supply that are eaten by the two remaining young. After 24 months the young are around 1 m in length, and perfect baby replicas of their mothers and are fully able to fend for themselves she gives birth to them in a lengthy labour. Biologists probing the bellies of landed female Grey Nurse Sharkshave had fingers nipped by the small young with their fully grown teeth. Ouch!

For more images, please visit www.VizBiz.com.au – This is a full gallery of all my dive images and also a great source of diving information.

The Decline of Grey Nurse Sharks [follow-on from prev story]

- by Mike Jacques

Declining range and population

Grey Nurse Sharks have been fished indiscriminately in the past. In your great grandfather's time, grey nurse sharks were recorded from Southern Queensland, around to Shark Bay in Western Australia. The species was reported fairly often in Tasmanian waters, but now it is locally extinct.

> *Mercury 1923 "… a specimen about 10 feet long that was caught in the lower waters of the Tamar may be seen in the Launceston Museum... it is responsible for many lives. It is common in the Brisbane River, where shark accidents used to be of weekly occurrence. A year or two ago a specimen of this shark about 10 feet long was caught off Wynvard, and an account was given shortly after of a boat being attacked at Bridport by what appeared to be the same species."*

These days, the distribution of the grey nurse has been confined to the coastal waters off southern Queensland and along the NSW coast, and to the coastal waters off Western Australia

Fishing Pressure

The Grey Nurse Shark was fished by hook and line in and around Botany Bay as early as the 1850s, to provide oil for burning in lamps. Fishing activity then increased as our population increased, the Grey Nurse Shark was the second most commonly caught shark around Port Stephens in the 1920s. These sharks are particularly vulnerable as they don't move far and often aggregate in known locations, so if you wanted to kill or catch any, they were easy to find and falsely seemed to be plentiful. Killing Grey Nurse Sharks was once considered a social service, as they were thought to be a threat to human bathers. In the 1950s and 60s spearfishermen were commended for killing them in large number with powerheads. Beach netting programs also further decimated their numbers. It was later found that Grey Nurse Sharks are not man-eaters and the species is now protected throughout Australia.

Accidental Death

In spite of legislative protection, Grey Nurse Sharks are still under threat from incidental catch in some commercial fisheries. In Australia they are primarily caught by nets, droplines, and other line fishing gear. In WA alone, 52.3 tonnes of Grey Nurse Shark was caught accidentally in commercial fishing nets. Grey Nurse Sharks are often seen with hook and line trailing from their mouths. Hooks can cause internal injuries and lead to infections and death. A hooked shark may swim away seemingly unharmed, only to die several days later from internal bleeding or peritonitis.

Habitat Threats

It is not only the fish that need to be protected, but their aggregation habitat also needs to be safeguarded. Fortunately, there are a few spots left where they can be seen regularly, such as the Julian Rocks Marine Reserve in northern NSW. However, their future is far from secure.

Beneath the Waves: Diving Tasmania's Sunken History

- by Geoff Rollins

My mate Richard mentioned a cool kelp forest he'd recently found south of Dover, Tasmania. Initially there were to be three of us, but the dive grew legs and before long there were nine. Some of the others were keen to try to locate the known resting place of the Katherine Sharer.

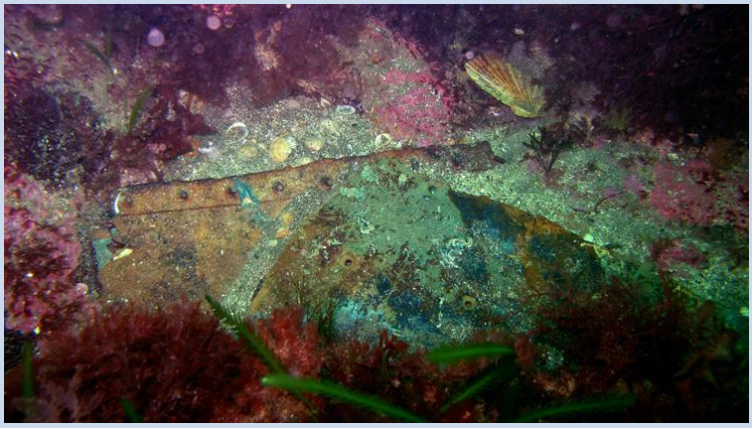
In 1855 the Katherine Sharer, a 440 tonne barque, was sailing from Britain to Australia, with her final destination being Hobart. She carried a mixed cargo together with a number of people wishing to start a new life in Tasmania. As she sailed up the d'Entrecasteaux Channel, named after Bruni d'Entrecasteaux who first mapped the area some 63 years earlier in 1792, she caught fire and was abandoned near the shore. The Captain ordered all passengers and crew inland to avoid the inevitable explosion caused by a large cargo of gunpowder. The vessel did explode, with wreckage and debris scattered across a wide area. All passengers and crew survived, but were initially stranded in the rugged wilderness at the bottom of the Earth.

The drive south from Hobart to Dover can be done comfortably in 90 minutes. Past the mist of Huonville, the winding roads narrow and the surrounding environment creeps right to the edge of the bitumen. It is wonderfully scenic and feels as if the inhabitants are really only briefly borrowing their plots of land from the forest. Once at Dover, our destination can only be reached by boat; an approximately 20 minute journey via zodiac over the lumpy, awkward swell that rises around the islands of Port Esperance, named Faith, Hope and Charity.

The resting place of what remains of the Katherine Sharer has been known since approximately 1929, however, it is not marked and is not frequently dived. One of our party had last dived here 29 years ago and described the wreckage as being little more than a few planks. Not being optimistic of finding her on the sounder, our boat continued south and dived the Giant Kelp forest for 50 minutes, swimming in and out of the

stands and fossicking about. It's like being in a land forest, but weightless; in perfect harmony with the ocean, the sun sending down dappled beams of brilliant white light. Upon rejoining the party, we were surprised to discover that the other two boats had found the wreck, apparently using more arse than class. Nonetheless, it was a great find.

We anchored, geared up in the choppy swell and then descended down the anchor line. The first 10m of the dive contained a large amount of fresh water from recent rain and visibility was down to only a few meters. However, after passing the 10m mark and continuing down to the sea floor at 15m, the visibility opened up and immediately revealed a scattering of wooden remains lying where they fell.



We spent 30 minutes on the wreck, amazed to find a significant amount of hull remaining, together with numerous artefacts such as bottles and crockery, copper sheathing and sections of wood. Most of the obvious and intact material has been removed over the years, but it is still very easy to find remnants of life in 1855. It is a true honour to be able to hold in your hands things from two centuries ago that have not felt fresh air or seen the bright light of day since they fell to the sandy bottom 156 years ago.

Topside, it was incredibly easy to imagine those years past, with the surrounding dense forest remaining virtually unchanged since the demise of the Katherine Shearer in 1855, and the arrival of Bruni d'Entrecasteaux's party in 1792.

Of this wonderfully remote part of the Earth, d'Entrecasteaux said:

> *It will be difficult to describe my feelings at the sight of this solitary harbour situateted at the extremeties of the globe, so perfectly enclosed that one feels separated from the rest of the universe. Everything is influenced by the wilderness of the rugged landscape. With each step, one encounters the beauties of unspoilt nature, with signs of decrepitude, trees reaching a very great height, and of corresponding diameter, are devoid of branches along the trunk, but crowned with an everlasting green foliage. Some of these trees seem as ancient as the world, and are so tightly interlaced that they are impenetrable.*

The untimely demise of the Katherine Shearer fortunately claimed no lives. However, the Tasmanian coast is littered with the wrecks of hundreds, perhaps thousands of vessels where those aboard were not so fortunate. Many of these final resting places have never been discovered.

Early Tasmanian Ocean Explorers

Bruni d'Entrecasteaux

- by Mike Jacques

The expedition of Bruni d'Entrecasteaux, was a rescue/scientific mission sent from France to look for the missing explorer La Pérouse. They loaded up with supplies and scientists and set off on a long and winding journey around the Pacific chasing false reports of La Perouse's wrecked ships. During this long ordeal they came by Van Diemen's Land and set up a temporary village and scientific observatory on the NE Peninsula of Recherche Bay for 4 weeks in 1792, and again in the south of the bay for 3 weeks in 1793.

D'Entrecasteux is much beloved by modern historians as he was arguably the most enlightened of the early explorers. The voyage was the first to Tasmania to predominantly pursue science rather than profit. D'Entrecasteux was one of the first Europeans to approach the Aboriginal people free from the prejudice that they were 'mere savages'.

In other respects the voyage was a very French affair, with heaps of good intentions, equal measures of political discord and even a bit of cross-dressing.

With this band of intellectuals was the ship's steward, Louis Girargin, in fact Louis was a 38 year old woman, Marie Louise Victoire Girargin. It is known that both d'Entrecasteaux, and his deputy Huon De Kermadec, not only knew of this deception but appeared to encourage it. It is believed that she was the daughter of the head gardener at the Court of Versailles who was forced out after having an illegitimate child. She was given a special cabin and was allowed to keep to herself. She was no wilting violet and challenged a fellow crewman to a sword fight during which she suffered a gash to the arm.

La Recherche et L'Espérance, petites flûtes armées en frégates, en campagne, sous les ordres de l'Amiral d'Entrecasteaux à la recherche des frégates de La Peyrouse L'Astrolabe et la Boussole (septembre 1791 - février 1794).

The first four-week stay in Tasmania was forced by storm damage and gave the scientists a chance to explore the island in more detail than earlier voyages of discovery. Jacques-Julien Houtou de Labillardiere, one of two botanists on board, collected specimens to be documented by the ship's artists, Nicholas Piron. The background of the officers involved meant that the main scientific interest was on navigation and cartography, astronomy, anthropology and botany.

Tasmanian Aboriginal people were sketched fishing

Despite spending more than a month at anchor during their first visit to Recherche Bay, the expedition did not encounter the Aboriginal Palawa people. The crew did find signs. D'Entrecasteaux was intrigued by the lack of weapons found, assuming rather romantically, that they lived in peace with one another. Perhaps the fantasies of a man who had seen too much war?

Félix de la Haie establishes gardens to potentially sustain future expeditions. He went on to be Head Gardener to the Empress Josephine establishing a Tasmanian Garden at Malmaison in France in 1800.

The search for La Perouse continued along the east coast of Australia, through Indonesia and down the west coast of Australia [In Fact, La Perouse had been wrecked on Vanikoro Island in the Solomons and was already long dead]. In his searches D'Entrecasteaux was often thwarted by a lack of water. Knowing they were certain to find fresh water at Recherche Bay, he anchored there for a second time on the 20th January, 1793, for another five weeks layover.

Marine observations were few at Adventure Bay, *"we caught a great quantity of fishes with our lines. They were of a great variety of different kinds, the most numerous were those of the species gadus [Cod]."*

It was during this time that D'Entrecasteaux made contact with the Palawa people who came forward this time on his return visit. D'Entrecasteaux felt that their candour and kindness contrasted so much with the vices of civilization.

However the ocean beckoned and the expedition hauled anchor early on the 27th February, 1793. Within six months, D'Entrecasteaux was dead from scurvy. The cross-dressing Marie became the lover of a sub-lieutenant on the *Recherche* and the pair died of dysentery a day apart in late 1794. The remaining crew arrived in Indonesia in October to learn that France had again collapsed into revolution. The new royalist captain surrendered his ships to the Dutch. The expedition papers were captured by the British and weren't published until peace in 1802.

D'entrecasteaux's Scientist

Jacques J.H. de Labillardière (1755 - 1834)

Having studied medicine and botany and travelled widely in Europe, in 1791 he was made botanist on the expedition. The on-board scientist Labilliadière collected about 5000 specimens and identified over 100

new species including the blue gum, *Eucalyptus Globulus,* now Tasmania's floral emblem. It was the foundation for his text *Novae Hollandiae plantarum specimen* (1804-1806) which is considered to be the first general Flora of Australia. It made him a respected figure in world science. It was based largely on his own collections, but naughtily, included unacknowledged material from others including Baudin.

Labillardierie's Marine-related observations of Recherche Bay

[to be read out with an outrageously sterotyped "Allo Allo" French accent]

"We were much surprised to find amongst the fish caught with the line in the course of the night, some sharks about a fathom [2M] in length. They were of the species squalus. [probably school shark or gummys]. This kind of shark never rises from the bottom of the water. We never saw it approach the surface during the whole time of our stay...

It does not appear to be dangerous to man; for our sailors, though they bathed here very frequently, never met with any accident. It finds sufficient food on these coasts to satisfy its voracity without attacking men: otherwise the natives of the country, who frequently dive to a great depth into the sea in quest of shell-fish, would be in perpetual danger of being devoured by these animals.

I followed the coast in a northerly direction, sometimes penetrating a short way into the forests. As it was low-tide, I walked with great facility along the shore, where I observed several small holes, in the form of a tunnel, made in the sand, each of which contained a small crab at the bottom [soldier crab]. Upon drawing out the animal, it soon crawled back into its hiding place, which, as I judge from its analogy with that of the formica leo in our country, serves it likewise as a trap to catch its prey.

At low water we found a variety of curious shells on the shore. This harbour afforded us great plenty of very fine oysters.

One of our carpenters killed an amphibious animal of the species known by the name of phoca monachus [a fur seal], about six feet in length". This seal was dissected and some observations made of the anatomy, some never likely to survive the test of time. They did note that*, "The dried excrements of this animal produce a very fine powder of a deep yellow colour, which our painter thought might be used with advantage in the arts".[I won't go there-Ed]*

"We saw some pelicans; but they did not come within gun-shot of us. We generally took copious draughts of fishes with our nets; especially when the east and southeast winds drove them into the bay."

WHAT'S ON in February – March 2012

WOULD you like to advertise an event with a marine flavour, or advertise a web address? Let us know! So far mostly only the scuba divers send us stuff.

Scuba diving clubs online calendars

TUDC – http://www.tudc.org.au/diving/dive_calendar.php
TSDC – http://www.tsdc.org.au
Contact us for TSAC, Ocean Plus and Leven upcoming events.

Coastal

World Wetlands Day, 2nd Feb
TAS – Family activities, 10am-3pm, Thursday 2 February 2012 , Tamar Island Wetlands
VIC - Free Eco Cruises for adults and children every weekend in February
WA – 8th Wetland Management Conference, Cockburn Wetlands Education Centre
WA- Wetlands Exhibition, children's activities and refreshments, Claremont Museum
QLD – activities in Bundaberg, Agnes Water, Poona, Brisbane, Gold Coast
NSW- activities at Hunter Wetlands, Panboola, Ballina, Nambucca, Pitt Town

Sea and Shorebird

Sightings See http://www.eremaea.com/BirdlineRecentSightings.aspx?Birdline=3
Vic – 2nd Feb - Breakfast with the Birds of Bittern Coastal Wetlands, Mornington Peninsula

Canoe and Kayak

25th March - Lifestart Kayak for Kids paddling challenge on Sydney Harbour

Maritime Heritage events

VIC - Until 19th Feb - *Sea of Dreams: The Lure of Port Phillip Bay 1830-1914*, Mornington Peninsula Regional Gallery.
VIC - March 8th - Tramboat Cruise, Melbourne National Trust
VIC - March 25th - Discovery Walk: Wonderful Williamstown
TAS – to 26th Feb, TMAG exhibition on Antarctic exploration
TAS – 11th March - Amundsen's polar journey, re-enactment parade, starts Elizabeth Street Pier at 11am, travelling by husky to the Hobart GPO, finishing at St David's Park

We're on Facebook!

Check out our "Marine Life Magazine" page on Facebook to interact directly with us famous people, and to hear the latest news and updates.

How to make a contribution

This involves sending us an article by email, preferably not too long and with a photo or two. Sorry, no money, it's all a love job and just for the glory. We'll use your contribution for the purpose for which it was given, for non-commercial uses and with attribution. *Contact Us; marinelifetassie@gmail.com*

Back Issues

We have been gathering together a lot of information and stories since November 2009, so if you are new and interested, please log on our back issues page which has been generously hosted by the Tasmanian University Dive Club,

http://www.tudc.org.au/news/marinelife.php