MARINE Life

The mammoth national edition

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Marine Life magazine

Our Goal

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

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NATIONAL News Roundup

NEW RULES: Does your club/association need boat survey?

From January 2013, uniform national vessel safety rules will apply in Australia and the Australian Maritime Safety Authority (AMSA) will become the National Regulator with your State Agency enforcing the rules.

Different requirements will apply to vessels, including passenger carrying vessels operated on a not-for-profit basis. This means your dive club boat, yacht club safety boat, fishing club vessel, bird watching club boat will all be brought into a new safety regime. There will be catch-all definitions to make sure everything except your privately-owned tinny gets covered. There are a large number of Fact Sheets which outline the details of the National System Regulatory Plan.

Phase 1 of the consultations have already been completed. A report responding to the issues raised will be published on the National System web site in early 2012. Under existing rules, if you are designated a commercial craft according to the rules definitions, mandatory crewing requirements make it impractical to run club boats on a volunteer basis. If you have a club or association boat, you need to contact AMSA and have your say. They are still willing to listen to concerns and not all of the special rules for not-for-profit uses have been finalised. See http://nationalsystem.amsa.gov.au/ Some dive clubs have taken exception to a new proposal which specifically targets them as group. If you want to know more about this campaign check out the new Facebook site Independent Dive Clubs Australia

New fisheries policies and treaties

The Australian Government has begun a review of the 'Commonwealth Fisheries Harvest Strategy Policy and Guidelines (2007)' and the 'Commonwealth Policy on Fisheries Bycatch (2000)'. "The harvest strategy policy underpins the management of target stocks in Commonwealth fisheries; it sets the framework and ground rules for how our fisheries are managed." "The harvest strategy policy guides key management decisions and their implementation – ensuring they are transparent and based on the best available science and economics", a government media release said.

The Australian Government has also ratified the Southern Indian Ocean Fisheries Agreement and the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean. These treaties are intended to manage and conserve fish stocks in the high seas of the Pacific and Indian Oceans.

Fishery resources covered by the treaties include commercially valuable deep-water species such as orange roughy and alfonsino. Rather than "...ensuring that fishing for those stocks will be subject to [*I'd say weak*] international regulation" as stated by the government media

release, I would suggest that a latter sentence is more accurate, "by being a party to these treaties, Australia has the opportunity to shape the management of these resources and secure participatory rights for the Australian fishing industry."

Recent seabird kills

Four South East Trawl vessels have been caught out not using mandatory devices to prevent seabirds getting caught, injured or killed in fishing gear. The Australian Fisheries Management Authority (AFMA) discovered this after an aerial surveillance operation off Victoria and Tasmania to ensure compliance with seabird rules. It isn't confusion about what to do, a recent survey by Oceanwatch, commissioned by the South East Trawl Industry Association and supported by AFMA, showed over 90 per cent of operators are aware of these requirements. As a result of the operation, AFMA issued two fishers with official warnings.

AFMA then contacted fishing operators by mail, SMS messages and through AFMA's vessel monitoring system. They warned that any further non-compliance would be dealt with more harshly. Despite the reminders, later aerial surveillance operations detected a further two operators not complying with the seabird management arrangements. Both vessels were ordered to port. "It is disappointing to see the level of non-compliance particularly when AFMA and the fishing industry association have worked so hard to get these measures in place," Mr Venslovas said.

At almost the same time an investigation by the Australian Fisheries Management Authority (AFMA) has led to seven fishermen being convicted in the Port Lincoln Magistrate Court for criminal breaches associated with the illegal fishing of Southern Bluefin Tuna, the shooting of protected seabirds and littering at sea. The men, crew members aboard two commercial Southern Bluefin Tuna tow boats, were convicted and ordered to pay fines totalling $22,000. The offences were detected on footage from video and other electronic recordings seized by AFMA officers during a routine at-sea inspection of Southern Bluefin Tuna boats.

The exact details of this incident are not clear. Seabirds tend to be shot for sport by some people, and to discourage scavenging of baits from commercial fishing boats and perhaps fish farms. It is not known exactly how widespread the practice is and it may be uncommon. Seabirds will take up to 1% of the fish feed distributed by shovel into Pt Lincoln fish farms. Fish farms can prevent this loss by using bait cages. There are assertions made from time to time that cormorants are shot at by fish farms but no definitive evidence.

Antarctic and Southern Ocean News

Satellite technology reveals double emperor penguin numbers in Antarctica

A new study using satellite mapping technology reveals there are twice as many emperor penguins in Antarctica than was previously thought. The results provide an important benchmark for monitoring the impact of environmental change on the population of this iconic bird. See http://en.mercopress.com/2012/04/13/satellite-technology-reveals-double-emperor-penguin-numbers-in-antarctica

Larsen B ice shelf almost gone

Larsen B ice shelf on the eastern side of the Antarctic Peninsula decreased in area from 11512 square km in 1995 to 6664 square km in 2002. Another disintegration in March 2002 left behind only 3463 square km. Now, ten years later there has been an additional loss of 1790 sq km. Only 1670 square km (about a tenth) now remains. A smaller section called Larsen A disintegrated in January 1995.

"The northern Antarctic Peninsula has been subject to atmospheric warming of about 2.5°C over the last 50 years – a much stronger warming trend than on global average, causing retreat and disintegration of ice shelves" said Professor Helmut Rott from the University of Innsbruck.

Toothfish - No sale

Three major US retailers have pledged not to stock endangered Antarctic toothfish. According to an article published by the environmental science and conservation news site, mongabay.com, Safeways, Wegmans and Harris Teeter have announced that they will not source fish coming from the Ross Sea.

Ross Sea MPA

The Antarctic Ocean Alliance, a coalition of 16 environmental groups, has launched a campaign calling for the full protection of 3.6 million square kilometres of the Ross Sea, as well as the creation of the 18 more reserves in the Southern Ocean surrounding Antarctica. See http://en.mercopress.com/2012/03/26/campaign-for-antarctic-marine-reserve-launched

Queensland News

Voluntary netting buy back a win for marine life

The Australian Marine Conservation Society (AMCS) welcomes the announcements by both the Liberal National Party (LNP) and the Australian Labor Party (ALP) of substantial investment in reducing commercial net fishing off the east coast of Queensland, including throughout the Great Barrier Reef.

"AMCS welcomes the commitment of significant funding by both the ALP and LNP to buy back net fishing licences," said Daisy Barham from the Australian Marine Conservation Society. "Reducing net fishing pressure along the QLD east coast, including within the World Heritage Listed Great Barrier Reef, is a win-win with benefits for marine life, tourism and both recreational and commercial fishing".

The LNP has committed a total of $10m to the buy back, including funding for improved fisheries monitoring. The ALP has committed $12m and, importantly, also committed to identifying further net-fishing closures to protect turtles and dugongs. The accidental capture ('bycatch') of marine life has been an ongoing problem in fisheries off Queensland's east coast. Reducing fishing effort will help reduce bycatch.

"AMCS congratulates both parties for committing to measures to improve the sustainability of the east coast fishery and reduce accidental capture of turtles, dugongs and dolphins in fishing nets. It is crucial that funding is targeted to reduce commercial netting pressure in the areas of highest conservation value, to protect critical habitat for dugongs, turtles and inshore dolphins".
"AMCS is delighted to see stakeholders from commercial fishing, recreational fishing, tourism and conservation working together reflecting the crucial nature of this issue," concluded Ms Barham.

These announcements coincide with the visit by inspectors from a UNESCO World Heritage Centre 'monitoring mission'. The mission is in Queensland assessing the status of the Great Barrier Reef World Heritage Area, including considering the impacts of activities like fishing.

Herbicide use and the Great Barrier Reef

The World Wildlife Fund (WWF) has slammed a decision to allow the continued use of the herbicide Diuron in the tropics after it's use was suspended this wet season. A WWF report says the herbicide has been found at 55 times its considered safe levels in creeks that drain into the Great Barrier Reef, and as much as 100 times safe levels in the reef itself. The

herbicide's widespread use and long half-life - as much as 500 days - make it a threat. "Just to sort of explain how toxic this stuff is, just one gram in four olympic-sized swimming pools is enough to damage sea grass," they said. In its latest outlook, the Great Barrier Reef Marine Park Authority lists the declining quality of water in catchment areas as one of the biggest threats to the reef. Diuron is being found up to 60 kilometres from shore inside the World Heritage Area of the Great Barrier Reef at concentrations harmful to coral, and has been found to be representing about 80 per cent of all of the herbicide load in the reef.

Sugar cane growers are the major users of Diuron and they say it is essential to their operations. They have stated that the chemical poses a very low risk when used effectively, and says green groups are being "mischievous"."We rely on the tool - it's an efficient tool. It's cost effective. "They are using the threat of the reef to try and pursue their goals. Unfortunately there's no good scientific basis."

Protest at Gladstone goes feral

A local protest about port development and dredging at Gladstone seems to have taken off into a full-blown national debate, drawing in wider concerns about the mining boom and the six major port developments that are either planned or underway on the Queensland coast.

In a recent "4 Corners" report, the Great Barrier Reef Marine Park Authority chairman, Russell Reichelt, intimated that Queensland's iconic Great Barrier Reef could be put at risk if authorities do not rethink plans to allow the massive port expansion works. He had already warned the Federal Government that huge dredging operations aimed at servicing Queensland's growing coal seam gas industry posed an unacceptable risk to marine life on the reef. He raised particular concerns over two planned coal expansions: one at Port Alma, south of Great Keppel Island, and one in far north Queensland at Bathurst Bay. The Gladstone liquefied natural gas hub was also worrying as it involves the largest dredging operation ever undertaken in the World Heritage area, and part of the spoil will be taken out to sea to a dump site within one kilometre of the Great Barrier Reef Marine Park. In the next 20 years, the Gladstone Ports Corporation has permission to dredge 46 million cubic metres from within the harbour boundaries, which are inside the World Heritage area.

The United Nations World Heritage Committee rebuked the Federal Government for failing to notify it in advance of the approvals for the LNG projects inside the Great Barrier Reef World Heritage area. This led to delegates from UNESCO's World Heritage Committee travelling through Queensland, investigating the environmental impacts of development on the Great Barrier Reef. Their arrival seemed to fuel the protests with some activists chaining themselves to ships. It seems like everyone who isn't a miner was joining in on the protest. Seafood processor Ted Whittingham also raised his concerns at the UNESCO meeting about major projects and the impact of dredging. "All this development on the Queensland coast is putting this entire reef in jeopardy," he said. Fishermen have been alarmed by outbreaks of fish disease in the bay following dredging. Recently, the State Government said that testing had

shown dredging was not the cause of the disease, while aquatic medical expert Dr Matt Landos rebutted that notion. The government stated, "The only parameter that's changed markedly in those water tests is the salinity level", prompting the Gladstone Ports Corporation to say that the 2010 floods were responsible for the outbreak of disease.

Greenpeace also got involved and were backed up by the public statements of an economic researcher, Australia Institute director Dr Richard Denniss. He said Greenpeace is right to be fighting the coal industry over an increase in coal mines and shipping near the Great Barrier Reef, "If this massive planned expansion goes ahead, the exchange rate will go up; manufacturing jobs, tourism jobs and agriculture jobs will go offshore". [*However, that doesn't sound like a direct environmental issue to me – Ed]*

A new proposal for Abbot Point, that could lead to it becoming the biggest coal port in the world will only add fuel to the fire. UNESCO are said to be alarmed at that prospect. I think it is a case of 'watch this space' as this issue develops it will have far-reaching national consequences, as Australia's recent 'ride on the back' of the minerals and energy boom looks like becoming an increasingly bumpy journey.

A Thorny issue on the GBR

The Great Barrier Reef is experiencing decline in many areas. Some academics have stated that coral cover data from about 1960 onwards suggests that cover across the GBR has fallen from about 50% in the 1960s to about 16% now.

Coral-eating crown of thorns starfish (*Acanthaster planci*) (COTS) have caused widespread damage with population "explosions" at regular intervals. It causes more damage on the GBR than cyclones, bleaching and coral diseases. There have been three major periods of outbreaks on the GBR: 1962 – 1976; 1978 – 1991; 1993 – 2005; and it seems there in a new wave which started off Cairns in 2009. Interestingly, each wave started near Cairns and spread through larval dispersion up and down the GBR generally as far as Princess Charlotte Bay in the north and Mackay in the south.

Some ecologists point out that the starfish has an important and active role in maintaining coral reefs. Before overpopulation became a problem, crown-of-thorns prevented fast-growing coral from overpowering the slower growing coral varieties.

What caused the starfish population to then go out of control remains controversial despite years of research. Ideas include that (1) population outbreaks are a natural phenomenon; (2) outbreaks are due to man-made changes to the environment including, removal of predators, construction activities, nutrient enriched terrestrial run-off.

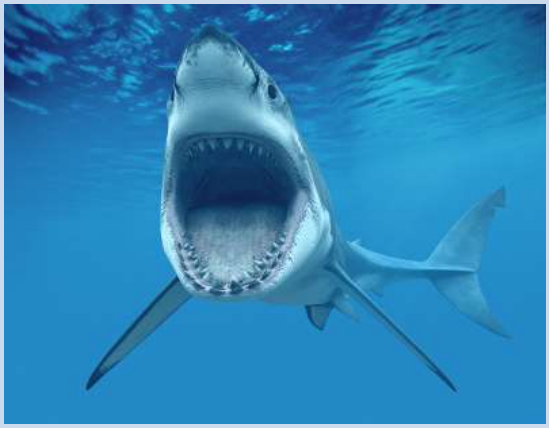
It seems most likely that outbreaks since 1962 were caused by nutrient enrichment from the land due to increased soil erosion and large scale fertiliser use. Removal of predators (especially fish) is also a secondary cause. There is some evidence that the increase in the area of no-take zones in 2004 has had significant success, as starfish numbers on closed reefs are lower than on reefs open to fishing.

Removal has been successful at a local scale, although it is very labour intensive. To control areas of high infestations, teams of divers have had kill up to 120 per hour per diver. All control tends to be done by professional teams using injections of poison. Dismembering them is too slow at 12 per hour per diver and the diver performing this test was spiked 3 times. In humans this injury immediately causes a sharp stinging pain, hours of bleeding, nausea and tissue swelling.

Water quality management (which means getting the co-operation of farmers in particular) is the best way to minimise future outbreaks. One of the more visible potential culprits are sugar cane farmers. Cane growers have challenged the science underpinning these conclusions and stress the economic importance of their industry ($2.5-3M pa). They have a voluntary code of practice and want help to reach a best practice outcome rather than suffer regulation. "CANEGROWERS recommends that policy options designed to improve best management practice uptake contain financial incentives components linked to best management practice frameworks…".
While we can continue to discuss the practicalities of a taxpayer funded bailout for polluters, Crown of Thorns starfish remain the greatest threat to the coral of the GBR and thus also indirectly to coral reef fish and other animals.

WA News

Oh no, not another one!



It's been a while now since the occurrence of the fourth shark fatality in WA in 7 months, but the noise has barely died down. The government went into damage control mode trying to emphasise the work it has been doing to manage the risk, without committing to a shark cull. Following the first three fatalities, WA Fisheries Minister Norman Moore had announced $14 million of funding to establish a Shark Response Unit and boost aerial beach patrols. He also granted $1.7 million for four shark-related research

projects, but I can't see that going far split 4 ways.

However, I have to give them points for being consistent and sticking to an evidence based strategy on culling in the face of such extreme community concern. Many water users, and regional tourism businesses, have been calling for blood. Premier Barnett only said he would be willing to consider increased shark fishing if the number of potentially deadly sharks was found to be multiplying [but there is no clear evidence of that at present]. The WA government has also rejected shark nets as an option, saying they were not suitable for beaches in Perth and elsewhere in the state's southwest.

Despite sticking bravely to the policy, some of the public messages have been a bit contradictory. Premier Barnett said he did not believe the string of shark attacks would damage WA's tourist reputation, but at the same time urged all West Australians to take special care in going to the beach and swimming. The Shark Response Unit was ordered to kill the offending beast, even though it's a protected species. WA's Shark Hazard Committee said, " current policy, in relation to the taking of any great white shark, allows its destruction only in the event that a member of the public is in clear and immediate danger of being attacked". The SRU went out and set shark lines near where the shark was sighted, but no-one seemed sure what to do if they caught anything, since there was no 'imminent danger'. "Given the passage of time and no one being in the water, the danger to anyone is basically zero, we probably wouldn't set lines tomorrow", a spokesman said.

The biggest activity that occurred after the incidents was a stampede of people leaving the water. Even the Shark Response Unit spokesman acknowledged that, "Even at our work people have talked about changing their behaviour in terms of using the aquatic environment, particularly divers." Mr Cappelutti also said the unparalleled number of shark attacks had certainly had an impact on the public's psyche, "Surf lifesaving also told us anecdotally that they see people changing their behaviour at the beach, particularly swimming early in the morning and people are sticking much closer to the shoreline."

In the long run, the answer seems to be to get more information. It is hoped that a better understanding of this species' occurrence off WA's beaches may help to reduce the risk of attacks on people. The Shark Response Unit intends to tag sharks that appear to be resident near popular swimming beaches and assess shark repellent devices and community alert systems such as SMS warnings.

Some 120 acoustic receivers will be laid along the South West and South Coasts at intervals of 800 metres and from close inshore to a depth of around 200m. This curtain of receivers will be located at Rottnest Island, Hamelin Bay, off Walpole and at Bald Island. If a tagged shark swims within 400 metres of one of the satellite-linked listening stations, it's detected.

A message is sent to the network of Government authorities, community groups and local councils responsible for implementing the existing Western Australia's Shark Incident Emergency Response Plan. Those groups can then take appropriate steps, which is basically to go and investigate further, or get everyone out of the water pronto. So far reports suggest that the currently crop of tagged sharks have kept away from Metro beaches with only one being detected west of Rottnest Island.

Earlier studies have revealed how highly mobile the Great Whites can be. One shark recently swam 2500km from Port Lincoln in South Australia to Rottnest Island in just over 28 days.

Shark repellents may not work

The findings by UWA's Oceans Institute suggest that developing repellents that targeted specific shark species would be more effective than using a one-size-fits-all approach.

The most common repellent on the market is a shark shield, usually attached to a diver's tank, which emits a high level electric current to deter sharks and is usually effective for a few metres. "Sharks have this series of small pores over their head which pick up weak electric fields in the water," Professor Collins said. "The repellents that are currently on the market upset this electric system by producing a really strong electric field which the animals don't like so when they get quite near the divers, sharks, or at least some species, are deterred and they'll swim away. "From our research, we know that every species is different …" Professor Collins said the three most deadly sharks - great white, tiger and bull - which accounted for majority of all fatal attacks, may be undeterred by existing repellents.

Professor Collins said the findings opened up opportunities to develop new, species-specific repellents, which may target the sharks' other senses such as light, sound or smell. There also was scope to develop a device to protect larger areas, such as an entire beach.

SW Salmon Fishery near death

Beach seining of SW Western Australia's salmon, once a thriving fishery, has almost stopped due to poor prices, a lack of markets and low recruitment.

Mostly the problem is that no-one wants to buy the catch at the right price, but there are also environmental issues. From 2005 to 2008, annual salmon recruitment was relatively high on the west coast but relatively low on the south coast. This is reflecting variations in the behaviour of the Leeuwin Current – a year of weak current tends to be followed by high west coast and low south coast recruitment, while a strong current is associated with low west coast

and high south coast recruitment. Otherwise, the movement of adults and the dispersal of larvae between south and west coast regions is pretty poorly understood.

Dumpy Wheatcroft has a salmon licence for Cheyne Beach, about 60 kilometres east of Albany. Even when fish are plentiful he only gets around 60 cents per kilogram. He's had only a couple of reasonable hauls this season and sums it up as not a viable way to make a full-time living. "Definitely not worthwhile. Pays a few bills around the place of course and covers our bum and not a bad bit of a holiday," he said.

Camden Sound Marine Park to protect Kimberley coast

The government announced that the Camden Sound Marine Park will be created, about 300km north-east of Broome. It is the first of four new marine parks to be created in the Kimberley. Other parks will be created at Eighty Mile Beach, Roebuck Bay and the North Kimberley. Camden Sound is internationally recognised as the biggest calving area for humpback whales in the southern hemisphere with more than 1,000 humpbacks found there during the calving season. A special purpose zone of 1,670 square kilometres would protect calving grounds. This zone will require vessels to remain at least 500m from humpback mothers and calves.

There will also be two sanctuary zones comprising about 20 per cent of the marine park area around Champagny Islands and Montgomery Reef, which is exposed on the outgoing tide to reveal a series of inspiring waterfalls. For the first time in Western Australia there will be a zone which provides for a 'wilderness' fishing experiences where recreational fishers (including charter boats) must either catch and release or eat their catch before leaving the zone [*this is already an access permit requirement imposed by Aboriginal people in many areas-Ed*]

Up to 48 per cent of the marine park is closed to commercial trawl fishing and 23 per cent closed to all forms of commercial fishing. If appropriate, compensation will be paid to affected fishing operations. Camden Sound Marine Park will contain a range of coral reef communities, seagrass and macroalgal communities, extensive mangrove forests. The REALLY INTERESTING thing glossed over by the press release is that the marine park will be jointly managed by the Department and the traditional owners, including the Dambimangari and Uunguu people. Joint management of conservation parks has been a vexed issue in many parts of Australia and this proposal may be a model for further arrangements if it works well. However, we should note that much land in the Kimberley is already closely managed Aboriginal land that is fully occupied by traditional owners and in many ways it is the government joining in on the traditional management process, rather than the other way round.

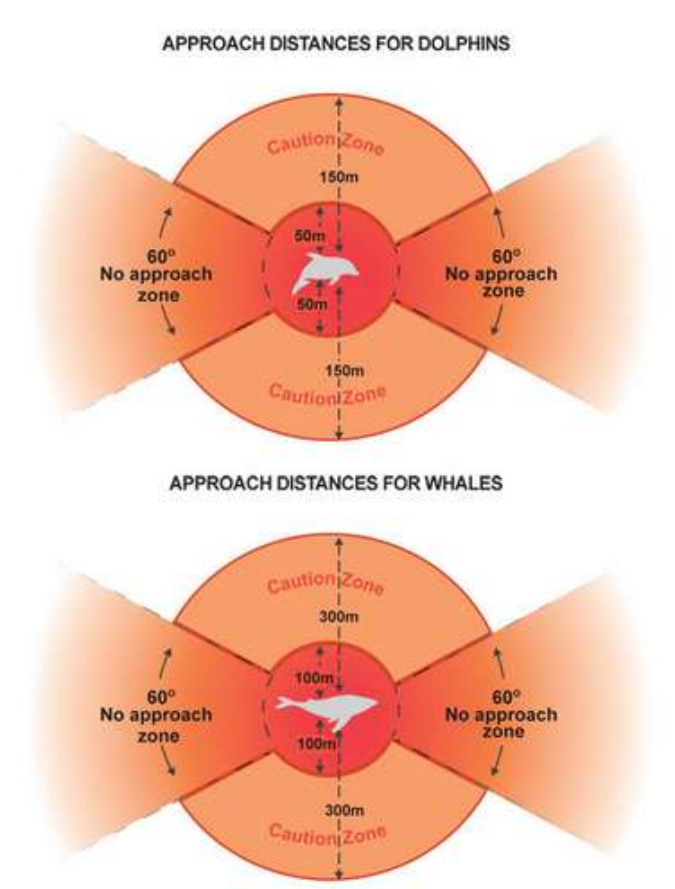
The Government has committed $10million over four years to protecting and managing Camden Sound Marine Park, with ongoing funding of $2.3million a year from 2015-16. The marine park will be created by mid-2012 followed by gazettal of the zone boundaries later in the year.

Boaties Warned To Watch For Migrating Humpback Whales *– by Mick Lee*

The annual migration to Humpback Whales from the cooler Antarctic to much warmer water off North Western Australia has begun, and boat owners have been warned…

The humpback whales hug the coastline on the journey north and subsequent journey south using natural bays such as Geographe Bay, Shark Bay and Exmouth Gulf to rest with their calves. At times the whales and calves can come as close as 100 metres to the coastline and boat owners have been reminded by WA Fisheries to keep their eyes open to avoid collisions. When in a boat and spot a whale boat users are reminded to follow these guidelines

- Do not approach closer to 100m to any whales
- The caution zone vessels is the area within 300m of a whale and 150m of a dolphin. No more than three vessels are allowed within the caution zone at any one time and vessels should operate at no wake speeds within this zone.
- Approach whales and dolphins from parallel to and slightly to the rear – not from directly in front or head on.
- When leaving whales and dolphins, move off at a slow (no wake) speed to the outer limit of the caution zone (300m) from the closest animal before gradually increasing speed.
- Keep a lookout and avoid disturbance to mother whales or dolphins and their calves. Mother and calf will be close together and the calves are sometimes difficult to see.
- If there is a sudden change in a whale or dolphin behaviour, move away immediately at a slow steady pace.



- Whales and dolphins sometimes form social groupings and may approach your vessel – if this happens place the engine in neutral and let the animal(s) come to you; or slow down and continue on course; or steer a straight course away from them.
- Do not get into the water if you see a whale or dolphin. If you're already in the water do not disturb, chase or block the path of a whale or dolphin and if possible return to your vessel or shore.

Fishers fear federal marine park

The Commonwealth Government released the draft plans in May 2011, outlining a series of no-fishing zones between Kangaroo Island in South Australia and the Abrolhos Islands near Kalbarri in Western Australia. Stretching from Kangaroo Island in South Australia to WA's Abrolhos Islands, the South-West marine park plan will rival the Great Barrier Reef marine reserve system in its vastness.

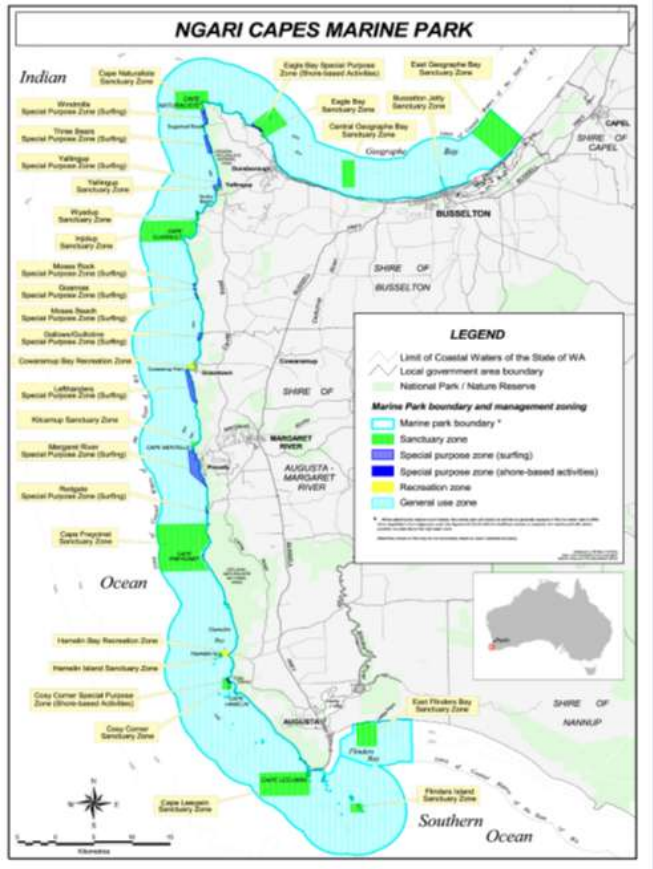
Fishing groups say the federal marine parks plan could lock them out of prime fishing areas. Recfishwest's acting chief executive, Andrew Rowland, says he is concerned the final federal plans will include more no-take zones in Geographe Bay. "We've told the Federal Government on repeated occasions that Geographe Bay is an important fishing area and we would be extremely disappointed if any of Geographe Bay was excluded from recreational fishing activities by the Commonwealth Government," he said. "We have encouraged the Government on various occasions to take a risk-based approach and we don't believe that recreational fishing represents any risks to the conservation assets of that area."

"There are people who have already been impacted by the Ngari Capes park," he said. "There's been a reduction in the areas where people are able to fish, where their businesses are, in part, dependent upon, some of these businesses will be faced with adjustment plans. "It will be a bureaucratic nightmare for the fishers that have to negotiate, having to think about the state and federal reserves.

"The Conservation Council of WA says fishing and conservation are not necessarily mutually exclusive. The council's Tim Nichol says he hopes the Federal Government's final marine parks plan sees larger 'no fishing' zones. He said it is possible for fishers to co-exist with a high-level of conservation."When you look at the reality of when marine sanctuaries are created, you look at Ningaloo Reef, you look at the Great Barrier Reef that have very high levels of conservation," he said. "Rec fishers and commercial fishers are still fishing and still having good fishing experiences alongside some excellent conservation results. Mr Nicol says extra sanctuary zones in Geographe Bay was one of the council's key requests in its submission to the Federal Government following the draft plan's release.

According to Dr Rowland of Recfishwest, the fight for Geographe Bay is symptomatic of the broader tussle over marine parks. He says marine parks are a simplistic form of conservation, exemplified by the use of iconic species such as whales to justify their need. "All of Australian waters are actually declared the Australian whale sanctuary under the EPBC act," he said. "So, simply putting up pictures of whales and saying would you like to see this creature protected to encourage people to support sanctuary zones is pretty emotive sort of stuff and I don't think anyone could deny the protection of whales. Mr Leyland says the sanctuary zones outlined in the draft plan are arbitrary and are not based on good science.

New State Marine Park for the SW



The Liberal government seems to have pulled off a rare coup, getting a new marine park declared in a sensitive area that has enjoyed fairly widespread support. It is part of a strategy to create six new marine parks – including four in the Kimberley, one in the Dampier Archipelago.

The Ngari Capes Marine Park will cover about 124,000 ha from Geographe Bay near Busselton to Augusta, including the waters between Cape Naturaliste and Cape Leeuwin. "It will balance both recreational pursuits and protecting important marine life by classifying areas into different zones". The adjoining area is very popular and the Leeuwin-Naturaliste National Park gets more than two million visits annually, and is the most popular national park in WA.

Fifteen sanctuary zones would be formed to protect breeding grounds for fish but 93 per cent of the coastline would still remain open for recreational fishing and other activities. "The bits of the coastline that aren't in that 93 per cent – you really wouldn't want to go there anyway," the Minister said. "Special areas of the park will be set aside for specific uses such as surfing and shore-based activities" Mr Marmion said. The marine park will cover State waters out to the 5.5 kilometre limit and some proposed sanctuary zones will match up with similar zones proposed in a Federal marine park stretching from Kangaroo Island off SA to the Abrolhos Islands off WA's Murchison coast.

The Conservation Council says the State Government's proposed Ngari Capes Marine Park seems to have struck the right balance between environmental and industry needs. The council's Tim Nicol would have liked to see more sanctuary areas but says it is an admirable start.

Western Australian Fishing Industry Council Chairman, Brad Adams, questions the need for a marine park in the first place. "There shouldn't be any need for marine parks if fisheries are managed well and we believe they are in Western Australia," Mr Adams said. Ninety-three per cent of the coastline will remain open for fishing and Mr Adams is hopeful that the industry will not suffer too much. About $2 million will be set aside to compensate commercial fishers for the impact on their livelihoods of 15 proposed sanctuary zones where commercial and recreational fishing will be prohibited. Not everyone can be satisfied though, with recreational fishing groups have described the marine park proposal as a political exercise and say it will damage the sector.

Exploring Rowley Shoals

The Federal Government is offering permits to explore for oil and gas off the world class diving and fishing location, Rowley Shoals.

Located 260 kilometres off west of Broome the Rowley Shoals are an untapped pristine reef system that supports a multitude of marine life including whales, dolphins, sharks, tuna and hundreds of different fish and coral species.. The permits will allow exploration drilling within 3 nautical miles of the coral reefs. The Federal Minister of Resources Martin Ferguson has said that part of the potential lease area is being considered for a marine reserve and that the successful bidder will need to work within strict guidelines. The state Labor Government is against the move and has appealed to its Federal colleagues to follow suit. State Opposition Environment spokeswoman, Sally Talbot, has also called upon the State Government to block the leases.

"The whole of the Kimberley at the moment is gripped by uncertainty about the environmental future of the Kimberley under the Barnett Government," Dr Talbot said. "*I would expect the Barnett Government to be out there fighting ferociously to protect this precious area and all we're hearing at the moment is a deafening silence."*

WA's Environment Minister says he has no control over mining companies being allowed to explore in the lease areas. Bill Marmion says he only found out about the permits after hearing about them on the radio and there's not much he can do.

"It's outside our control, the Commonwealth have made the call on this," Mr Marmion said. Woodside through a joint venture with Shell have already been given limited permit to operate in the area. The exploration drilling will be done using a 'two barrier" standard at all its operations which prevents reservoir fluids flowing into the environment.

Marine Life Magazine had emailed Woodside asking what impacts the seismic exploration would have on the migrating whales and other questions but as yet no answer…

Esperance Shipwrecks and Pirates

The WA Maritime Museum is looking at conducting a search for two missing wrecks in the Southern Ocean by using irregularities in the earth's magnetic field. The wrecks of the wooden cutter The Mountaineer and the steam ship Rodondo have been missing for over 200 years. The Mountaineer was built in 1832 in the Tamar River, near Launceston where it was used to carry general cargo to the newly formed colonies on the Mainland. In rough weather on March 14th 1835, The Mountaineer sank, believed to be off Thistle Cove. On the October 6th 1894, the steam ship Rodondo, built in Liverpool England struck a reef believed to be off Salisbury Island.

It is hoped the magnetometers will detect the presence of large metallic objects undersea avoiding the high cost of traditional methods such as towed array sonar and inclement weather.

Many ships were lost off the coast of Esperance as traders and sealers hugged the coast avoiding the dangerous and wild Southern Ocean as much as possible. Of course this had its inherent dangers.

Of great interest is the wreck of The Mountaineer. The shipwrecked crew found safety on Middle Island and according to one of the crewmembers, James Newell, stated in court later they where taken in by Australia's only known pirate, Black Jack Anderson. Anderson was an American who came to Australia to hunt seals and whales. But it appears that may have been to sedate and turned to piracy.

A follow up feature will be published shortly in Marine Life Magazine.

NT News

Northern prawn fishery – Too much damn paperwork?

The Australian Fisheries Management Authority (AFMA) is currently considering a proposal to limit the number of prawns that can be taken from the Northern Prawn Fishery, an area from Cape Londonderry in Western Australia to Cape York in Queensland. Quota management systems (QMS) are a pretty routine way to manage a high intensity fishery, but it is pretty new for the NT prawn fishery and has caused some concern among the old salts.

Vic Binding, a Northern Territory fisherman is sick of paperwork and restrictions, "I'd sell up tomorrow if someone'd make me an offer coz I've really had enough of the Government". QMS is the last straw and he says it could "spell disaster for the industry" and this could be his last season.

AFMA is attempting to modernise the management of the fishery and deal with some of the environmental issues, especially by-catch. A more rigid system of limited entry, seasonal closures, permanent area closures, gear restrictions and operational controls have been introduced in recent years. New guidelines and devices are trying to control the by-catch of

turtles, crustaceans, sharks and stingrays. AFMA also wants to exclude fishing from areas that are important habitats for vulnerable species of marine life. This could be seen as 'Canberra greenie interference', but it's actually being largely driven by market demand from abroad and self-interest. To export to the USA, Australian fisheries have to meet stringent turtle by-catch guidelines. The prawn fishery supports 50 boats and catches about 6500 tons of prawns annually at a value of about $70 Million.

New Marine Park in Limmen Bight

A new marine park will be declared in Limmen Bight, south of Groote Eylandt, by July 2012. Green groups said, "The declaration of an 88,000 hectare marine park in Limmen Bight will help protect important reefs and sea grass meadows which are critical breeding and feeding grounds for a myriad of fish species as well vulnerable dugongs and endangered green sea turtles." "The science shows that marine life is best safeguarded in highly protected marine reserves. Critical areas in the Limmen Bight Marine Park must be effectively safeguarded in 'sanctuary' zones under the park's management plan."

The Limmen Bight Marine Park will be only the second marine park in NT waters. The proposed Limmen Bight Marine Park will be roughly one-third the size of Garig Gunak Barlu National Park, the Territory's only existing Marine Park.
Limmen Bight is a Site of International Conservation Significance as a wetland and is home to large numbers of migratory shorebirds, marine turtles, dugongs and other marine life.
The proposed Marine Park is noted for,

- Extensive seagrass beds for dugong and turtles;
- The largest dugong population in the NT;
- seagrass beds with at least three species of seahorses and pipefishes
- More than 100 fish species including the threatened freshwater sawfish;
- Significant nesting numbers of threatened Flatback Turtles
- At least five species of migratory shore birds and 19 species of shorebirds
- A large number of waterbirds including one colony of at least 10,000 birds.

Territory environment groups welcome moratorium on seabed mining

An increasing number of inter-state companies had been gearing up to explore and mine the Territory seabed for heavy metals like manganese. Recently, the Northern Territory government applied the brakes by announcing a moratorium on seabed mining in NT waters. This is only until 2015, pending the outcome of an assessment by the EPA. "This is an excellent first step towards safeguarding our sealife," said Jess Abrahams from the Australian Marine Conservation Society in Darwin. "Open cut strip mining of the Territory's seabed would devastate the feeding grounds of our fish, turtles, dolphins and dugongs." "The moratorium ... protects the environment, protects Aboriginal sea country and it protects important fish breeding habitat".

"We've seen Land Councils stand united against this, we've seen [recreational] fishers object and environment groups have long been opposed to this new mining frontier." Green groups are still seeking a moratorium on oil and gas exploration and drilling in sensitive marine areas like the mouth of Darwin Harbour, Bynoe Harbour, and off National Parks like Cobourg and Kakadu. They also called upon the government to "...announce reserves for special marine areas where these destructive industrial activities are permanently banned."

NSW News

New fish farm in Port Stephens Marine Park

An experimental fish farm may be allowed inside the Port Stephens marine park. Bluefin tuna, yellowtail kingfish and Mulloway could be farmed in sea cages about 4 kilometres east-north-east of Hawks Nest, within a habitat protection zone which permits aquaculture. NSW is going after a significant portion of Australia's expanding aquaculture industry. Port Stephens already has oyster, barramundi, silver perch and freshwater crayfish farms, but not in sea cages. People in States that have sea cages, like Tasmania and South Australia, already know something about the debate they can generate over nutrient discharges, net anti-fouling pollutants, displacement of recreational users, transfer of disease to wild fish, aesthetic impacts and interactions with wildlife. The NSW Food Authority has already noted that waste from the fish farm could impact on the nearby oyster industry. The current official mantra is that, "It was concluded that pollution impacts of waste from the fin fish lease would be minimal and can be managed under existing harvest area monitoring plans." The area is also more exposed to ocean flushing than South Australian or Tasmanian fish farm sites. The experimental farm will be set up close to a now defunct private snapper farm that recently went into receivership. This farm had previously reported no seal interactions with the sea cages placed in the area.

Project Manta

Northern NSW divers have been contributing to the success of the Project Manta research program being conducted in eastern Australia by reporting sightings of tagged rays in Cape Byron Marine Park. Manta ray individuals can be recognised by looking at the spot pattern on their bellies. They are an inquisitive fish and will often approach divers.

A manta ray with a Project Manta acoustic telemetry tag was recently photographed by a local dive master at Julian Rocks and Cape Byron Marine Park staff are continuing to provide photographs of manta rays to the research effort.

"Community-support has allowed for major discoveries, including the biggest migration recorded for this species of manta ray - Manta alfredi - which has been shown to travel more than 500 km between Lady Elliot Island and Byron Bay."

Divers can be involved with Project Manta and contribute to the conservation and protection of manta rays and their habitat by sharing their manta ray photos and completing a sighting report at project.manta@uq.edu.au. While the manta season is near its end, photographers who have already captured images they want to submit need to make sure that for each photo, the date, location and name of the photographer is provided. If a new individual is identified from contributed photographs, the photographer will be able to name the mantas pictured.

For more information contact project.manta@uq.edu.au, or visit Facebook "Project MANTA - The manta rays of eastern Australia" or visit https://sites.google.com/site/projectmantasite/

Baby Seadragons at the Aquarium

Sydney Aquarium has recently acquired four juvenile weedy seadragons. The weedy seadragons were bred at the Melbourne Aquarium, one of only a few that have been successful bred in captivity. Weedy seadragons are unique to Australia and are found in Sydney Harbour, with a colony located near the airport at Botany Bay. However, due to damage of habitat from development and pollution, these beautiful, elusive creatures remain threatened.

SA News

Aquaculture cleans up

The Port Lincoln aquaculture industry is attempting to minimise the impact of debris on the coastal environment by signing up to clean up beaches. South Australia's aquaculture industry generates 49 per cent of the State's seafood production value, with the Eyre Peninsula region employing more than 60 per cent of the State's aquaculture workforce.

The 'Adopt a Beach' programme will see 155 km of coastline in lower Spencer Gulf divided into 13 sites, with local aquaculture companies 'adopting' a stretch of beach and committing to undertaking a minimum of four beach cleanups a year. Compliance measures have also been put in place, which in some circumstances could see operators having to cover the cost of an independent contractor, if the monitoring and cleanup isn't completed within an acceptable timeframe.

Marine debris has been a growing concern for the Eyre Peninsula community. The 'Adopt a Beach' programme was developed by the Eyre Peninsula Natural Resource Management Board (EPNRMB), industry associations and operators, as well as local residents.

The Australian Mussel Industry Association has stated that, "Since the inception of the aquaculture industry, continued modifications to farming practices and ongoing education of the workforce has helped to reduce the amount of debris the industry is responsible for," Mr Dyer said. While fish farms are a source of debris they are by no means the only culprits, "In the future, we look forward to greater buy in from other stakeholders, including users of marine waters and land users, to participate in this process."

Fairy tern numbers under scrutiny

Another count has been made of fairy tern numbers across South Australia as part of efforts to work out why their numbers are dwindling. The white shore birds are found mainly in the state's south-east, the Coorong region and along the Eyre Peninsula coastline. Their numbers have been in decline for the past three decades. Authorities say about 1,100 fairy terns were sighted across SA during a recent census, suggesting a successful breeding season. Environment Department ecologist Dr Daniel Rogers said the latest count was to help determine whether those birds have survived. "Particularly looking for adults and juvenile birds because we've just been through the breeding season for this species so we're looking to see whether many of those juvenile birds which have come off that breeding season are still there and have survived their first few months," he explained.

Fishing history

MFV Tacoma is a recently restored heritage vessel that was the first Australian purpose built tuna vessel. After its launch in 1951, Tacoma's maiden voyage was from Port Fairy, Victoria to Port Lincoln, South Australia via Adelaide.

Recently, the Tacoma has returned to Port Lincoln for its first tuna fishing trip since the 1980's. The crew recreated the vessel's history, catching tuna in the old fashioned way, using old bamboo poles. Jack Bellamy, a 78 year old original poler caught his first tuna in 44 years. President of the Tacoma Preservation Society Ross Haldane says it was a successful trip with six tuna caught.

For more info see www.tacoma.org.au

MPA process restarts

In 2009, the SA government proclaimed 19 new marine reserves that cover a significant part of the SA coast (44%). Declaring them was one thing, but agreeing on how they will be managed has been a vexed question.

The Liberals tried to imply that there was a conspiracy between environment groups and the government. In reality, it seems like the only 'behind closed doors' meetings were with union officials, who stresses that their members had concerns about the potential impact on their member's ability to go fishing. They pushed a motion through the ALP Convention urging that recreational fishers were provided with a "wide variety of locations, including all jetties and all popular and accessible beaches". Union concerns also followed strong resistance from recreational and professional fishing groups and coastal communities that said the sanctuary zones would devastate property values. Little consensus was reached and in November 2011 the government delayed the process to allow for more consultation. This seems to have come about despite many years of ongoing dialogue, including with consultative committees from every region. The Port Augusta local committee was ready for a decision and quipped that it just wanted the government to get on with it before they all died of old age. Well they have!

The waiting is now over with an agreement being reached with environment groups and commercial and recreational anglers on proposed boundaries. There will be 80 marine sanctuaries, 32 fewer than the Government's original plan. Recreational fishing and conservation groups say further consultation on other details of the parks should be easier.

Have your say at http://saplan.org.au/yoursay/marine-sanctuaries-your-first-look, you can also see an interactive map of the boundaries.

VIC News

Sewers at the Twelve Apostles

Geelong Otway Tourism executive director Roger Grant claimed yesterday that at peak times, such as Easter, treated sewage water was discharged from the waste-water treatment plant at the Twelve Apostles visitor site and into Port Campbell National Park.

The toilets and waste treatment plant simply could not cope with the surging number of visitors to the site, he said, which numbered about 1.6 million a year. The discharged water made its way through the landscape and over the cliffs above the Twelve Apostles, he said. But the waste-water treatment plant is not breaching environmental rules. The body responsible for the site has a licence to run a waste-water treatment plant at the site and was allowed to discharge waste water that has been treated to drinking standard. Parks Victoria ranger Will Cox said any ''occasional overflow'' from the plant was ''not sewage, but treated/recycled water.

The Great Ocean Road is one of Victoria's best attractions, and there is an emerging push for improved tourism facilities. Corangamite Shire Council recently applied to the government to rezone more than 1100 hectares of land - including parcels on the Great Ocean Road - to house more accommodation for tourists.

The move caused consternation among some locals and was slammed by the Victorian National Parks Association, but was backed by the Victoria Tourism Industry Council.

Health check for wild abalone

Scientists from Deakin University Warrnambool and Melbourne University will check up on the condition of the stock in SW Victoria. The study will use high-resolution pictures of the seafloor and genetic technology along with catch data from local divers including GPS details of where abalone was caught and the size. The $100,000 project is expected to take about 12 months. Outbreaks of viral ganglioneuritis six years ago near Port Fairy and Portland spread along the coast and killed large numbers of abalone. The virus later spread to Tasmania. The infection of the stock cost the industry millions of dollars in lost income.

Although no fresh outbreaks have been detected in Western Victoria since 2007, catches since have been poor. Abalone use to be one of Western Victoria’s biggest export earners. The Western Abalone Divers’ Association said, “Before the virus struck there were 14 licence holders and 14 divers, now there are only six divers. The value of licences went from upwards of A$6.4 million to less than $1m. Stocks will recover in nature’s timeframe, not man’s time.”

TASSIE News (that 'other' island)

Proposed listing of giant kelp forests as endangered ecological communities

Giant kelp forests of the East and South Coasts of Tasmania have been nominated as endangered ecological communities, but the scientific community has determined the nomination should consider the full national distribution of these communities and, Victoria and South Australia may also be included.

Fishermen are usually restrained in their support for studies that might lead to some future fisheries restrictions. They appear to have been sceptical about claims that giant kelp is in long-term decline. The published responses were generally hostile to the conclusions of the "Kelpwatch" report by Dr Karen Edyvane, 'Conservation, Monitoring and Recovery of Threatened Giant Kelp (*Macrocystis pyifera*) Beds in Tasmania', released in 2003. They are also reluctant to openly accept the extent of the risks from urchin barrens caused by invasive black urchins.

No wonder then that TSIC has stated in "Fishing Today" that it "...does not believe there is sufficient evidence to support the nomination of these communities as endangered". Although they acknowledge that there is clear evidence that the number of urchin barrens has increased, "...there is also recent evidence that a number of the giant kelp communities have increased in size, and historically there have been significant changes in the biomass of giant kelp in Tasmanian waters".

To my mind, if it is a cyclical phenomenon it seems like a very sustained and dramatically damaging 'natural event', so unusual that I don't see how, at least for the present, that you could argue against the assessment that it is a threatened perhaps even endangered community.

However, I do take one point as very valid, "If these communities are listed as being endangered under the EPBC Act it is unclear what actions will be recommended in order to protect them". If the problem is that we are screwing up the climate, I can't see how the nomination will, of itself, achieve a whole lot. ALL of us would have to change our own behaviour a bit more globally and radically.

Tasmanian GPS Technology - a world first to improve abalone industry

The Institute for Marine and Antarctic Studies at the University of Tasmania has developed new methods to collect information from commercial abalone divers that will revolutionise fishery assessments.

In a world-first, the entire Tasmanian abalone dive industry will carry passive GPS data loggers to assist with sustainable management of Tasmania's most valuable fishery. The GPS based technology is the product of research conducted at the University of Tasmania over the past five years.

The high resolution GPS data will be combined with a new harvest management framework, developed specifically for abalone fisheries by the University of Tasmania. The new approach is the brainchild of Dr Craig Mundy, a research fellow at the Institute for Marine and Antarctic Studies (IMAS), and will focus on the fishery for Tasmanian blacklip abalone fishery (*Haliotis rubra*). This is the largest wild-capture abalone fishery in the world.

"Until now, researchers have used catch per unit effort indices (CPUE) from fishers to assess performance of abalone stocks. CPUE data in its current form is considered an unreliable estimate of abalone stock levels - but it continues to be used due to the expense involved in obtaining more accurate scientific estimates of abundance," said Dr Mundy.

"Management of abalone fisheries requires substantially different information from that which is considered normal for other types of fisheries around Australia and elsewhere."

Dr Mundy said collecting information at the right spatial scale has been a major challenge to those researching the assessment and ecology of abalone fisheries and using this method goes a long way to solving the problem.

"The combination of electronic data collection, spatial data methods and practical harvest management strategies in a dive fishery is the first of its kind in the world," he said.
The project, supported by the Australian Government Fisheries Research and Development Corporation, will involve close partnerships among industry, the Department of Primary Industries, Parks, Water and Environment, and SciElex, a local marine electronics company.

Local Bits & Pieces

Mysterious Anemone Secretions

- *by Emma*

A friend of mine contacted me recently with some questions about a strange critter observation he'd made in some rockpools up at Devonport.

> ***Matt:*** *Hey. Since your my goto person for a fish/underwater related stuff. I was cruising the local rockpools and noticed the little red anemones had a clear almost crystaline substance oozing out of them or just at the base of them. What is the substance and why have I never noticed it before (no smart arse comments)? I took several pics on my iPhone.*
>
> **ME:** Not sure if I'm qualified enough to be a critter go-to but I'll give it a go! Are you talking about the anemones that looks like red "blobs" when they're closed up? *Actinia tenebrosa*? And was the secretion at the pedal base where it attaches to the rock or at the mouth? Secretions from the lower (rock) surface would probably be part of the attachment mechanism, whereas ones from the upper (mouth) surface would be part of the feeding and digestion mechanism. Not sure why you wouldn't have seen it before - these are pretty normal secretions, but I'll admit I've never paid them any attention before to notice if they're usually obvious. If it was from the mouth, it's possible you were witnessing a spawning event. Could I see a pic?

Matt then sent me through a few pictures illustrating his exciting finding. Amazing what phone cameras can do these days, huh?

Some background info on *Actinia tenebrosa*, the waratah anemone:

If you've spent any time on rock platforms, you have almost certainly seen this species of anemone in rockpools or even exposed above the low water line. The anemone is most often seen in its contracted 'globular' state (as in Matt's pics above) that, to the untrained eye, looks a little like some kind of shiny sponge or ascidian. This behavior is an adaptation to prevent drying out and dessication of the animal when exposed at low tide.

Closed 'globular' state

Anemone opened while underwater

After checking out Matt's pics and confirming that he wasn't just looking at some mucous spewed out by the anemones [sorry for ever doubting you, Matt!] I did some extensive scientific (internet) research into the phenomenon. Turns out that the *Actinia* genus is in fact viviparous. What this means is that these anemones actually give birth to live young. I'm pretty sure what Matt witnessed was actually a reproductive event, and that these little "packets" ejected by the anemones contained a few tiny baby anemones that would settle nearby. While the anemones tend to remain fixed, they are capable of moving so can disperse some distance from their parents. Now, all this is entirely speculation based on 5 minutes of internet research, so we'd love to hear from any experts or enthusiasts out there to confirm or whether we're on the right track. Regardless, cool sighting Matt!

Live birth occurring in a closely related anemone species

Shoot us an email (**marinelifetassie@gmail.com**) if you've seen something equally cool while diving/swimming/fishing/beachcombing etc. and would like us to do some research on it. There's a huge body of knowledge out there between our readers, so if you're curious about something with a marine theme, chances are one of them can answer it. We'd love to put it in the mag!

SA Feature

Feral or In Peril – new reporting system

- by Alex Gaut

Alex manages some marine conservation programs in SA and would love people to use a fabulous new online reporting system that has been developed.

Harlequin fish @ Aldinga Reef - Photo by Simon Bryars

'Feral or In Peril' (FIP) is a marine citizen science program that has been running for 12 years. Through the program we encourage anyone who is in or on the sea regularly to report sightings of both invasive ('feral') marine pests and native marine species that are of conservation concern.

The program has a wide network encompassing beachcombers, fishers, divers and snorkelers, the recreational boating community and anyone else regularly around the sea. This widespread network has become an invaluable early warning system for invasive species because early notification of an invasion means it may be possible to prevent establishment, rather than finding it later when eradication is virtually impossible. Marine pests are well known to cause potentially devastating economic and environmental impacts, so there is significant 'buy-in'

from coastal communities who value healthy marine ecosystems – this is a key to the program's success.

The program has had some significant achievements, for example in 2008 it was one of our volunteers who reported the first European fan worm (a well known invasive marine pest) on Kangaroo Island, which led to the development of a major marine pest program by the Kangaroo Island Natural Resources Management Board. Part of their program was a social science research project that discovered that the main route for recreational vessels going to and from Kangaroo Island was from the marina at Wirrina ('Marina St Vincent'), which does not have boat cleaning facilities. So, boat owners would travel to Kangaroo Island, often with their boat loaded with marine pests, to have their boat cleaned at a facility on the island, thus translocating pests unknowingly.

During 2008-2010 we also assisted Reef Watch Victoria to set up their own FIP program, which has also had some success leading to a fishing moratorium on both western and eastern blue gropers in Victoria for 12 months whilst some further research was undertaken.
The SA FIP program has also started collaborating with the SA Research and Development Institute (SARDI), Aquatic Sciences branch to undertake marine pest research cost-effectively using dive volunteers.

A new web-based reporting system has been developed for the FIP program as part of the Atlas of Living Australia (ALA) Biological Data Recording System. The system can be found at http://feralperil.ala.org.au

We encourage you to explore the system and to use it to report sightings of any of the species listed. You will need to register to be able to use the system and then you use your unique login ID whenever you wish to make a report. This will enable you to see all your entries and map and manage them. Whilst the new system is currently tailored for SA and Victoria, you can make a report of a sighting from anywhere, as long as it's one of the species listed in the field guide.

The new system includes a photo upload facility, so please send us an image of your find and we can use it to confirm your discovery. Don't forget - photos of marine pests are ***very*** important to confirm sightings, as well as photos of the sides of the heads of **blue devils** and **harlequin fish** (plus location) for a research project.

Other features include an interactive, zoomable map to pinpoint the location of sightings with an automatic latitude/longitude entry system. So zoom in as far as you can to get your location as accurate as possible, and then click on the map to make it automatically enter the location information. Or simply put in a GPS location in decimal degrees. This allows us to use another feature of the new system, which is to map all FIP sightings without GIS facilities.

Perhaps one of the most important features of this new system from a management perspective is that it enables real time email alerts of our 'red alert' marine pests – those that

pose the most serious threat to our marine environment, so remember to report marine pest sightings as soon as you can after you've seen it and your report will go directly to the relevant government agency, who will decide whether to take action. Our partnership with state government agencies in setting up this system has been vital to its success and their support is appreciated.

You can even use the system on your phone, whilst in the field, and in the future it is anticipated that it will be available as a mobile phone app.

So, what are you waiting for? Go to http://feralperil.ala.org.au register, and start reporting your discoveries! Thanks for your support.

For more information, contact Alex Gaut: alex.gaut@conservationsa.org.au

European fan worm on yacht at Wirrina - KI NRM Board

WA Feature

Shark Attacks – in my humble opinion

- by Mick Lee

Shark attacks are one of those things that strike intense fear into the hearts of grown men. Marine Life *has previously run a special on the statistics of shark attack in the* **October-November 2010 edition** *(click for link), and a follow-up story on the great shark cull debate more recently in* **December-January 2011-12** *edition following a spate of shark attacks. Here, WA diver Mick Lee gives his lowdown on the shark attacks cropping up on his doorstep.*

So we have had a spate of shark attacks here in Western Australia in recent time. Depending on which media organisation you subscribe to this could even be seen as an epidemic and one even saying an invasion of man eating beasts (I will just leave that one alone). The ocean is a dangerous place and we know that more than anyone. You can get stung by a box jelly fish, stabbed by a sting ray or fall victim to DCS. We weigh those risks up each time we enter the water.

But first let's talk statistics briefly. According to the SharkAttack.info website in Australia from 2011 and 2012 there were 28 shark attacks in Australia. Of that 5 were fatal. Globally 145 shark attacks were recorded with 12 fatalities. Given the size of our coastline and more importantly our love for the ocean here in Australia the odds are still in our favour.

What we have seen here in Western Australia over 2011/12 is just bad luck and that is unfortunate. The problem at present is not with the sharks or with the ocean user, the biggest danger we have at the moment is the media (mainstream). As soon as a person is attacked the media frenzy begins. The TV channels and print media sensationalism is scary. The loudest voice for a shark cull comes from them. Unfortunately this leads to those who do not understand the ocean agreeing and the voice gets louder. The same for shark nets. The common feeling here in WA at the moment is hey shark nets are cool and we will not get to shoot them. Yup I said shoot them, When George Thomas Wainwright was killed spearfishing off Rottnest Is the pictures the next day on the front page of The West Australian was a member of the WA Police on a boat with a shot gun. Unsure how effective that is but from some training I had done when in Army I am guessing none, but the media lapped it up. Even worse when Bryn Martin was taken swimming off Cottosloe beach the SAS where called in the media sprouted. They were only there because they just happened to be running exercises trailing jet skis that morning and came to help look for the body - which has never been found. Oh yeah back on the shark nets, what a great idea but don't tell Joe Public the turtles, dolphins and whales that will get caught up in the nets or how they will affect the migration of other fish life that will affect the fishing in the area.

What is rarely reported is the fact that most of the sharks are following the bait fish, salmon or whale migration. Mostly they are on their own migration to and from South Africa, Cottosloe is

a known place where the sharks come from the South West turn right, maybe get one feed from the seal colony at Rottnest Is and then off to South Africa. The media ignores this with the full banner headlines such as Man Hunters and Killers of the Deep.

Sightings have been another huge issue this summer closing beaches on a daily basis. Tiger Sharks, Hammerheads and Great Whites have been spotted by patrol planes and helicopters as far off as 1 kilometre and this has led to a closure, with media scrum in tow. Anyone would think nothing happens in Perth. But really of course there are more sightings, the government funded helicopters to patrol the beaches and Rottnest Is from sun up to sunset. I am surprised they did not see more. But the propaganda sprouted to the media is shark sightings and attacks are up ... of course they are we are looking for them.

The best and logical solution available is the research currently underway that is looking at tagging and having a locator database so if a shark that has been tagged comes close we will know about it. But in reality it won't matter and nor should it. The recent attacks in most viewpoints is an abnormally and one that well just happened. Obviously spear or cray fishing on scuba does bring the risk factors up. Probably why I do neither and only take a camera - maybe that is the answer they are too camera shy. There are shark shields available and some use them, I don't but that is personal preference.

The tagging project has hit a snag. After two months of searching WA Fisheries Officers did not tag one Great White Shark. Why?? I hear you ask considering The West Australian not two months ago was claiming on the front page that the ocean was alive with man eating beasts. No Great White Sharks where tagged because none were found.

The program was not at a loss however with other sharks being used for practice. I can just see the news now as a 'rouge' Port Jackson Shark comes close to Cottosloe Beach.

Anyway there is my rambling 10 cents worth.
Mick

[Ed – Thanks Mick – we love to hear opinions, even if you do classify them as rants. And, dear readers, we'd also love to hear your take on the issue. It's certainly a topical one, and it looks like it's not going to go away any time soon…]

SA Feature

Are the Cuttles Scuttled? Threats to SA giant cuttlefish habitat

One of Australia's great natural spectacles is the annual cuttlefish spawning aggregation at Pt Lowly, north of Whyalla in S.A. Expansions to the Roxby Downs Mine are threatening the survival of this natural event and tourism drawcard.

Giant Australian Cuttlefish (c) 2009 Silke Stuckenbrock - SilkePhoto

The Australian giant cuttlefish is the world's largest cuttlefish species and can grow up to 10.5kg. A promontory near Whyalla is the only place in the world where cuttlefish gather in such large numbers to breed and have been seen in densities of 10 per m^2 on this shallow reef. They gather in only the small area from Black Point through to Backy Point each Winter to mate, lay their eggs and then die. The water chemistry is critical to the success of the hatchlings, and despite 12 years of scientific visits, counting and close study, little is known about the animals migration movement to or from the breeding ground. The cuttles live right next to an existing Santos Gas facility.

Point Lowly Lighthouse & Cottages (Santos' refinery is visible behind, to the left)

Enter BHP who have plans to expand the Roxby Down's mine in northern SA. To do this BHP's needs more water and is willing to build hundreds of kilometres of pipeline to bring this water to the desert. The perfect site for a desalination plant is at Point Lowly, right on top of the cuttlefish breeding ground. BHP Billiton chief executive Marius Kloppers said the planned mining expansion at Roxby was part of $80 billion worth of proposed mining investment by the company over the next five years.

At the same time private developers are also seeking funds for a new industrial facility and jetty at nearby Port Bonython. Up to 11 new businesses have been mooted for the area, but not all are certainties. These developments bring in the threat of dredging, shipping accidents, noise pollution and overall water quality decline. The desal plant would pump highly salty "return" water right into the cuttlefish breeding area and cuttles are apparently very sensitive to water quality and noise pollution.

Santos' track-record at the existing Port Bonython gas plant includes a shipping accident in 1992, which resulted in 300 tonnes of bunker fuel oil tipping into Upper Spencer Gulf. The facility seemed underprepared, equipment and expertise had to be sought from Geelong and Port Adelaide. The oil washed into the mangroves south of Port Pirie, killing hundreds of birds, and damaging hectares of mangrove habitat.

Whyalla is an old shipbuilding centre and wants industrial projects. The town has been declining since the shipyards closed and the population has fallen from 33,000 in the mid-1970s, to 22,000. The mine expansion is tipped to create 10,000 new jobs. The mine has an estimated working life of 100 years in total, and will extract 1 trillion dollars worth of minerals, leaving a gaping hole one kilometre deep and 3 kilometres wide.

People want a more secure economic future, but it could be a battle between two forms of big business, mining and tourism. In this battle the cuttlefish also have economic value. They have put Whyalla back on the tourist map for those willing to take a dip to enjoy the experience. Industry offers big and rapid spending rather than the slower, smaller-scale, less visible development from tourism. Whyalla is already part-way through a project to build a Cuttlefish Interpretive Centre to cash in on the tourists who are after a drier on-shore experience.

BHP have said that there is little risk from their desal plant, extensive modelling of Spencer Gulf and the area around Point Lowly has shown that highly saline return water from the plant would disperse rapidly. BHP also pledged to undertake annual surveys of the cuttlefish population before construction and throughout the life of the desalination plant.

Whyalla Diving Services owner Tony Bramley said he still had some concerns about the potential impact on the cuttlefish. "Anything we do to the environment has a cost," he said. "Whatever precautions they take there will still be a risk and we've got to ask ourselves whether we want to take the chance."

Scientists are also worried about the future of the unique breeding aggregation at Whyalla. Numbers have dwindled in recent years and the desalination plant could make matters worse. This year less than a quarter of the usual numbers made it to the site. Another report says the drop is from 250,000 to 25,000. Local fishermen reckon the seals have increased in numbers and cottoned on to an easy feed, the SA government agreed that it was not unusual to now see seals in the upper Gulf. A new 'no fishing' zone has also been declared around the site. The Whyalla mayor wants to ban cuttle fishing in the whole Upper Gulf. "Now if that means amending the marine park that's proposed for that area to incorporate the total exclusion of the cuttlefish and a total no-take zone, I think that's what needs to be done," he said. He also thought the proposed explosives plant, deep-sea port and desalination plant in the area would not harm the cuttlefish. Fishermen believe the population is naturally cyclical and a new MPA isn't needed.

People are now anxiously waiting for the water to cool to 17 degrees, so that they can see how many cuttles return this year. "The reason it is so concerning is that cuttlefish die after mating. A species like snapper can have a bad recruitment year but the same fish can still come back and lay more eggs. "The cuttlefish can't come back and breed again." Prof Gillanders said.

"We think that the population of cuttlefish that breeds in Whyalla only comes from the Upper Spencer Gulf," Professor Donnellan said. "The implications are pretty obvious. If the animals that are breeding at Whyalla only come from local waters, then any disturbance of the water quality ... could have a very dramatic effect on that breeding aggregation.

In October last year, the Hon Tony Burke MP approved the BHP project under the Environment Protection and Biodiversity Conservation Act 1999. On March 2nd, it was publicly announced that the expansion of Port Bonython on the Point Lowly peninsula had been granted Major Project Status by the SA Government.

"The conditions apply to all parts of the project, including the proposed desalination plant in the upper Spencer Gulf and will ensure that the Gulf and its marine life, including the giant cuttlefish, are protected." "The [South Australian] Government has brought in place the most

stringent environmental approvals ever given to a mine expansion in Australian history …". The Minister said legislation to finalise the mine expansion plan would go to the SA Parliament soon.

Local Aboriginal elder, Mr Kevin Buzzacott, has filed an application in the Federal Court challenging the Commonwealth Environment Minister's approval of the Olympic Dam expansion. He is represented by the Environmental Defender's Office (SA). Mr Buzzacott (known as Uncle Kevin) is an Elder of the Arabunna Nation in Northern South Australia, who is concerned about the impacts of the mine on the environment.

IMOS Survey Cuttles

IMOS have recently used a robot to track cuttlefish behaviour all day and all night at the Whyalla spawning site. Over the week long expedition, the AUV "Sirius" was deployed on 38 dives at three sites. It took tens of thousands of images and nearly a thousand captured the behaviour of cuttlefish. The images largely supported the observations of divers and suggest that the animal concentrations at night were substantially higher closer inshore, similar to diver reports of the daytime behaviour. Of 931 images showing cuttlefish, 771 were trying to camouflage themselves to the colour of the seabed, while others were showing off for a mate, showing that 'flirting' must get pretty tiring and isn't kept up 24/7.

Amy's Take ***(aged 11 and a bit years)***

BHP can't build their water factory there because thousands of cuttlefish have been weeing in that water and people have to drink cuttlefish wee, that's disgusting. There are also lots of diver's visiting and if they are like Michael they wee in their wetsuits all the time. If little kids go snorkeling in the water to look at the cuttlefish, well I know for a fact that they never get out of the swimming pool and go to the toilet. All that disgusting wee is going to be sucked into the pipe. BHP have to put their water pipe somewhere else, or they will have to drink wee all the time.

Feedback Corner

We love all kinds of feedback, even if you violently disagree with us. It shows you care :-)

You Both Got It Wrong

In reference to the Tasmanian commercial cray fishing quota disagreement in last issue, we have heard from a local scientist who doesn't want to get drawn into the debate by being named, but has responded by saying that TAC has declined but not as a result of either of the theories put forward by Michael or Caleb.

To paraphrase, it is neither about picking on recreational crayfishers, nor a clever technique to lower costs and manipulate the cray prices. Some people might like to think it is all part of a well-orchestrated management plan, but fishermen aren't actually ready to accept that kind of novel economic approach yet and it wasn't the motivation for the Fisheries Advisory Council (FAC) proposing the new quota restrictions. The decline in TAC was a simple and direct result of purelus (cray larvae) monitoring suggesting there would be a big decline in the numbers of lobsters for a few years. This was followed by poor catches which caused a degree of panic. Nothing else.

There really isn't agreement on any 'big picture', coherent, forward- plan for managing declining cray stocks. Perhaps it might be nice if there was, and we should be focusing on open debate about that, rather than some nice-sounding but pretty distracting rhetoric. Now that the quota HAS been forced down, some serious pressure is needed to make sure that quotas are kept low until some very serious stock re-building has occurred. That would help deal with urchin barren problems on Tasmania's East Coast and more easily allow for new measures to be implemented (such as spatial management with different catch levels and minimum sizes in different recruitment/growth areas around the state) with far less political opposition.

The respondent was glad that Caleb is convinced of a need for a new economic approach, and hopes he will continue to publicly argue (against the desire of fishermen to quickly raise quota as soon as recruitment improves) that the economic benefits of keeping catches low will outweigh a return to the bad old days.

Filling the Void

I think since the collapse of the MCCN there is a desperate need for a newsletter like yours… If you're taking comments too, I would strongly recommend updating the front page. The fonts don't look so good, they're old fashioned. Maybe keep the title in some kind of header to separate and highlight it from the image in the background? Just a thought. Congratulations for taking this on, it's a huge endeavor! – Cheers, A

Thanks for the constructive feedback, the front evolved from a homage to LIFE magazine, so that might explain it. If anyone out there has some suggested sample fonts we would appreciate a chance to share ideas. It looks modern to me, but I think the Dead Sea Scrolls are contemporary literature ***– Mike J***

Hey, what happened to my iPad?

Excellent mag, but can I suggest changing to landscape format like UWPMag. Much easier to read on notebooks and small screen devices.
- Panda

Thanks Panda. This is something we will consider down the track. I have found landscape reads better on both laptop and iPad as well. ***- Mick Lee***

Too much soft focus

Hey guys, Can you increase the quality of the images in the next edition. They are pixelated to buggery and sometimes it's hard to make out what they are. Remember most people these days are using large wide screen monitors (24" is the minimum issued here) thus the images need to be good enough to be clearly viewed at this size. - John

I'm pretty sure it's because the magazine is being viewed in the web browser where the PDF expands to the size of the screen, ie on a big screen much bigger than 100%. Obviously we can't make the images sharp beyond 100%, so I have fixed it up through the website so that they all open at a nice manageable 90% zoom. Enjoy! ***- Emma***

Narcissistic Rantings

Here is some advice that you can take or leave. If you want Marine Life to be a respected publication it may be worthwhile having a holistic view of its aims and put that into context to what is delivered. ATM much of it is coming across to many as a narcissistic rant, and the sarcastic/childish promotion is not being well respected either. Word on the street…

I [Emma] responded to this one initially, but Mike J felt the need to get in on the action also…

Emma: *Thanks, we appreciate all feedback, good and bad. As the mag has no agenda other than to disseminate information and provide a platform for reader and editor-contributed pieces of writing, it can be tricky at times to envisage exactly where we see* Marine Life *'going', so it's often just a collection of random articles with no clear message or direction. We always attempt to report objectively without assigning political affiliation to any groups, and we do try to attach disclaimers to opinionative articles to avoid offending the masses. We appreciate though that it might not be everyone's cup of tea. On the plus side, we're pretty excited to hear there is talk of* Marine Life *on the streets. Maybe we'll be cool one day after all!*

Mike J: *I agree. Everyone's rants, except mine, deserve no respect. Why would anyone want to rant on anyway about something so obscure, like crayfish, especially in an irrelevant place like Tasmania. Crayfish are great to eat and are plainly not cute like dolphins, so why have more than one kind of discussion about them? I also think it is better for ordinary Joes, like the twits writing for this magazine, to be passive. Surely that would make the magazine more interesting. Trouble is that you tell them what to say and they try to be all independent and have a mind of their own? As for narcissism, I know exactly what you mean. I see that sort of discussion everywhere and hate it for the same reasons as you do, it's not all about me. As for sarcasm…Moi!*

Busselton Jetty – a Short History

- by Mick Lee

Just a short 2 and a bit hour drive south of Perth nestled on the shores of Geographe Bay is the town of Busselton. Western Australia has a rich maritime history. When most think of this history ships such as the Batavia, Gilt Dragon and the Zuytdorp, all of which met their watery grave off the Western Australian coast further to the north. Whilst Geographe Bay has lovely calm waters its past may not have shipwrecks or mutiny; it does have a fascinating history.

In fact this history can be dated back to 1622 when the Dutch ship 'Leeuwin' sighted what is now Cape Leeuwin on its way north to the Dutch colony in the East Indies. In 1801 the French paid a visit to the area when the ships 'Naturaliste' and 'Geographe' explored this part of the coastline. This was purely a 'scientific' exploration and some of the landmarks such as Cape Naturaliste and the Vasse River where named. The Vasse River was actually named after Timotheé Vasse who was lost when a longboat from the 'Naturaliste' was wrecked in a storm in Geographe Bay. The British, who had already set up a colony at Port Phillip Bay where suspicious of the French and sent a party including convicts to King Georges Sound. In 1826 they set up a colony founding not just what is known as Albany but the British presence on the West Coast.

The town of Busselton itself was first settled in 1837 by members of the Bussell family. The first town site was to the north of the present location and was described by the surveyor as :

'mud and water were far more plentiful than dry land, more fit for Dutchmen or frogs that British soldiers'

Obviously the site was moved not long after.

As the region grew so did industry. Geographe Bay was already being used as stop over and safe haven for the whaling ships and soon the timber industry. In the early days Lighters or flat bottomed boats where used to load and unload vessels moored in the shallow waters off Busselton. Then finally the government sanctioned the building of the jetty. Initially the jetty stretched 160 metres, built from local jarrah hardwoods. Sailing ships could dock alongside and horse drawn carts taking the goods back and forth.

However drift sand was causing a problem and 10 years later the jetty was unusable; so another 130 metres was added to the end. The march of the drift sand was relentless and five more extensions followed between 1884 to 1896. In 1911 technology caught up to the jetty and steam engines where used to haul the timber and other local produce up and down the jetty, this continued up to the 1960's when diesel power took over. The 1960's also bought the last extension to the jetty bringing it to a total length of 1,1841 metres, making it the longest jetty in the southern hemisphere.

However the 1960's also bought an end to State Ships using Busselton Jetty. The inland rail and road routes proved a quicker and more economical alternative to the port of Fremantle and in 1973 the jetty was closed to shipping. Over the years the derelict jetty started to deteriorate from wood borers and rot. In 1978 Cyclone Alby did not help and damaged sections towards the shore end of the jetty.

Locals started to raise money and in 1987 the Jetty Preservation Society was formed to restore the jetty into a tourist attraction for the region. All was going well with the train line rebuilt to take tourists (and divers) to the end of the jetty with entrance fees used to keep the ongoing restoration funded. In 1999, a fire burnt 70 metres of the jetty at the far end.

Today, Busselton Jetty is a vibrant tourist attraction that allows great sightseeing, fishing (in restricted zones) and of course diving. Enjoying the underwater realm is not limited to us divers though, located 150 metres from the end of the jetty is the Underwater Observatory. Here members of the public can view the multitude of marine life from the safety of an underwater 'bunker'. This was opened in 2003 and to date over 200 000 visitors every year enjoy the Busselton Jetty above and below the water.

Busselton Jetty is a wonderful man made structure and whilst it was built to feed the desire for Western Australian hardwoods such as the Karri and Jarrah trees. This led to large scale felling of natural forests and in some areas changed the landscape. But that was then; what Busselton Jetty is now providing back to not only the local ecology but economy as well. Once you dive Busselton Jetty you will understand the wonder it is.

The Dive Site

The best way to dive Busselton Jetty is by boat. Sure you can take the train or even with a trolley walk the length to the end. But for me and yes I am a bit lazy boat is the way to go. Anchoring off the end the drop down is straight onto the dive site.

The remnants of the last few metres lay scattered on the sea floor, there is plenty of light at this stage due to the jetty deck being destroyed in fire. Here schools of sweep play through the bare pylons and nudibranchs of all shapes and colours seem to bathe in the sunlight.
But it is when you move under the jetty itself the dive seems to take on whole new feeling. The light dims to a gloomy scene and the pylons seem to close in like a dark forest in a fairy tale. But this only provides a safe haven for the marine life, and there are heaps. The schools of sweep and yellow tailed scad have doubled as the move around the pylons. Seapike, whiting and herring swirl about the Underwater Observatory.

Diving Busselton Jetty is safe; navigation is easy and the depth is hardly a challenge being only 9 metres. The most difficult part of the dive is the abundance of marine life. Being an underwater photographer it is very easy to get side tracked. Yes the diving is that good. But it is not limited to the schooling fish. Look closer and the little masters of camouflage can been scene. Anglerfish with their fins looking more like tiny feet and skin that blends perfectly with the surrounding sponge can be seen. Scorpionfish lay in wait for unsuspecting prey to swim past whilst goatfish sift through the sea floor hunting for invertebrates.

Then have a closer look at the pylons and see them come to life. Soft corals abound with sea squirts, sponges and bryozoans clinging to their sides creating an underwater rainforest. Every spare piece of real estate is taken creating a kaleidoscope of colour that changes constantly with the sunlight. And it is here you will find the decorator crabs and telesto nudibranchs hiding away in plain view.

And then there is the night dive; but I will save that for another time when my senses recover…

Conservation

There is a proposal for a marine conservation reserve in Geographe Bay and this has just been tabled for discussion through WA Fisheries. There are currently fishing limits off the Busselton Jetty and around the HMAS Swan (scuttled off Dunsborough and another fantastic dive) it is unsure how or when the new plans will take effect.

The bay itself is rich in sea grasses that supports marine life not just around the jetty but as a nursery for the rest of the bay. John Dory and Samson fish have been seen around the sea grass beds off the jetty having a rest.

Tasmanian Underwater Explorers

- Fragments of an early history – Part II

Last issue set out Tassie's claim to be perhaps the first 'dive mad' spot in Australia. Now read on…

Insurers of wrecked vessels were a rich source of private freelance work, and a core of local and Victorian divers moved at the hint of any shipwreck. In 1862, the "George Marshall" wreck on Flinders Island attracted a Victorian salvage crew,

> *"The diver is working hard and brings up the goods very rapidly. We understand that the diving apparatus leaks, such that the man is up to his mouth in water every time he comes up".*

A few local businessmen saw the potential. In 1866 *"One of the apprentices of Mr. Ross, shipwright, Battery Point, by a coincidence named Ross also, went down in the usual dress used by divers in their submarine work, at a point off the shipyards on Saturday by way of a " trial trip," to the bottom of the river, which in this place is about 20 feet deep. The young aspirant to the honors and émoluments pertaining to this peculiar and arduous description of labor, remained under water for a considerable time, and expresses his intention of adding the profession of a diver to his trade of shipwright and will continue his descents at stated intervals."* This was Samuel Ross who is later recorded as doing a few minor jobs around the port including an inspection of the grounded steamer "City of Hobart" in 1869. In 1876, diver Bradley tried gear on the wreck of the "Priscilla", but 36 metres was too deep for the primitive gear.

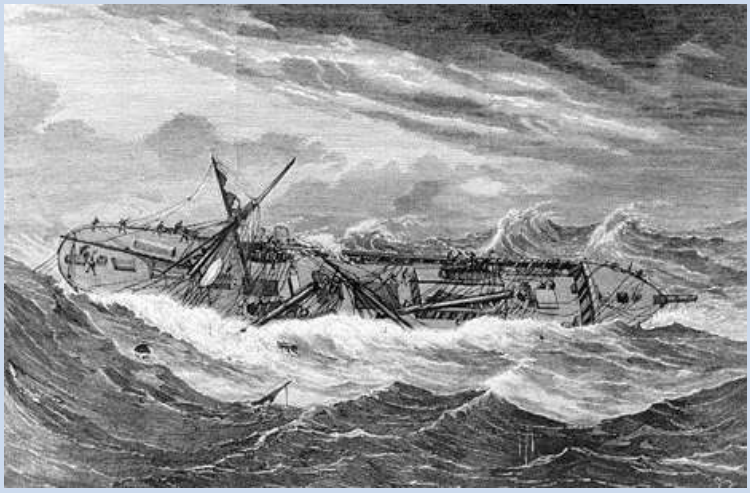
By the late 1870s Siebe & Gorman were advertising their wares to the public in major Australian city dailies,

> *"Messrs Siebe & Gorman beg to call the attention of their Patrons and Public in general to their " PATENT DIVING APPARATUS," by which two Divers each work simultaneously and at different depths, entirely independent of each other, and in the case of one Diver being entangled in Cordage of Wreck, &c, another Diver may be sent down from the same pump to clear him. We are the only PATENTEES and SOLE MAKERS OF THIS APPARATUS, to work to a depth of 180 Feet. Price, £130 net"*

Gordon & Gotch in Sydney were then holding stocks of diving bells and pumps and were offering to contract out their "trained staff of divers".

In 1878 the "Cambridgeshire" went up on Flinders with a valuable general cargo,

"..here on a sunny forenoon I find myself curious to see the method adopted for the recovery of the sunken cargo. Looking down, the water is so clear that I find no difficulty in following the shape of the vessel broken as she lies, and can actually distinguish the white handles of broken earthenware as they lie scattered about by the smashing of a crate. Moored tightly



head and stern over the wreck is the little schooner 'Pelican', and as I idly watch the operations every few minutes brings to light some case sent up by the diver, who works some 15 feet or 20 feet below… The diver remains below three or four hours at a spell, the length of time varying according to the coldness, calmness, and depth of the water. The diver's personal attendants are three in number, two of whom heave constantly round at the pump which supplies him with air, while a third holds the communication line ready to receive and attend to any orders he may get from his mate below. The diver manages to find pretty constant employment for a gang of men hoisting in cargo and another stowing it away." They went on to explain the rough living conditions on-site and monotonous food, and perhaps a few modern commercial divers now reading this might say, 'what's changed'.

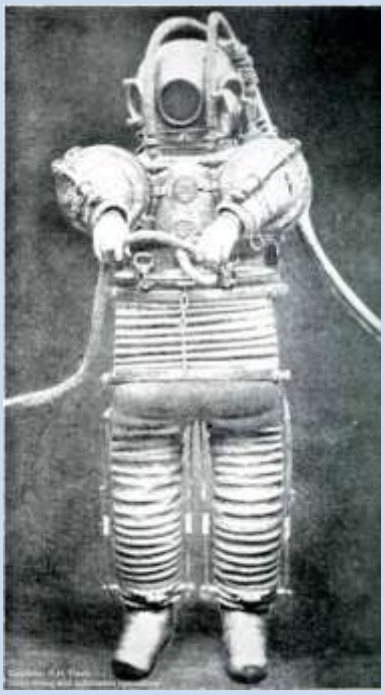
"The recovery of wreckage has a certain charm for adventurous people, and a party under Captain Quin, of the schooner 'John and Jane', and Mr Ericson, the diver, were to leave for the Straits on Thursday night on a cruise to the scenes of various wrecks there. What is left of the Cambridgeshire was to have their principal attention, but on their way they intended to call at the wreck of the S.S. Bulli, and recover her anchors and chains if-possible. All the members of the party are experienced hands at the work, and if the weather favors the cruise is expected to have a successful result. Mr Ericson is to survey the Bulli on behalf of the underwriters."

Australian salvage crews included a few locals. In 1879, *"The ketch Coral leaves to-morrow for Port Davey, with Jeffreys, the diver, who goes on behalf of the insurance company to make a survey of the wreck of the schooner 'Bright Planet'."* In 1894 a diver was also used to salvage the "Devon" on the West Coast. It looks like £130 was too much for Tasmania's conservative port authorities. They seem to have relied on contractors and the Royal Navy when a diver was needed. We know that H.M.S. "Nelson" carried a complement of divers and she was at Hobart in 1883, looking for a practice torpedo *lost* by Tasmanian's colonial 'Navy' (a single steam torpedo boat). While they were there the ketch "Maud Myra" sank off Bruny Island in 100 feet of water, and the owner convinced the Commodore to go and assist.

Experienced diver Abel Worth was sent down and came up after half an hour to make a report on the wreck. There was only one set of gear, and rather than change out of his suit, he declined the help of the relief diver, Robert Brice. He took a line down to recover the ship's anchor. This anchor was refloated and fouled on his lines. He constantly signaled for more air, suggesting his air hose was pinched. After a while he failed to

respond to signals. With no means of getting to him, it took 4 hours to free the lines before he floated to the surface. When the helmet came off it was full of pink froth and a post mortem showed his right lung had burst. He had been snagged on a previous job and had confidently unraveled himself after an hour and a half, but it seems this time he was too exhausted and short on air. He may have been alive until the end, snagged in lines and unconscious. He may have died of an air embolism when the inflated suit rushed to the surface as the lines finally let go. Tasmania's second diving fatality was buried in the Queenborough Cemetery, Sandy Bay.

In 1885 the Launceston Marine Board finally purchased their own diving gear, reckoning it was cheaper than using barges to fix their many navigation beacons.



In 1896, an inventor, Mr. W. W, Gordon, arrived in Hobart from Melbourne to test the Buchanan-Gordon Diving Dress. He was probably touting for backers. He came with his two sons and diver Alex Nelson. Nelson was by birth a Dane, 35 year of age, and had been a professional diver since 1885. He had been working in caissons building railway bridges, then as a diver on bridges in SE Australia. The newly invented dress was heavy and attempted to reduce the pressure with a sturdy frame, a flawed attempt at a one atmosphere suit. A few successful deep dives were conducted on the mud in the Channel. The locals were curious, but not eager to part with their money. The suit was taken to Europe and built and trialed by Siebe Gorman.

Divers were also useful for major public works. The construction of the Duck Reach power station in 1895 saw the Hodgsons brought in as private contractors to work on the weir. They worked freelance for a while before taking a regular wage with the Marine Board of Hobart.

In 1930, diver Mr. C. E. "Jock" Cameron, of Deloraine was salvaging the schooner "Joseph Sims" at Low Island in Bass Strait. Cameron gave rare detailed insight into his salvage work.
The schooner was lost with sheep, 500 bags of manure, 4000 bricks, two windmills, three tons of iron, groceries, a buzzer plane, iron spouting, and sundries. Despite the heavy seas the visibility underwater was very good, which probably doesn't mean much as commercial divers think a metre of vis is good. Among the goods he recovered was a Ford truck. Cameron righted the truck on the sand, and sat for a while at the wheel. One of the things which struck him was the inquisitive nature of the leather jackets. A school of these fish followed his every movement, and several times they even tried to nibble at his hands [see, it's not just you Phil].

The island contained prolific life, *"An army of blue and white penguins waddled up from the sea's edge, picketing the rim of the rocks for miles. With the setting of the sun, they began a solemn chant which sounded as one continuous squawk. Sleep was impossible; and the crew could do little else but reconcile themselves to the dirge."*

Two launches carried all the gear and the crew. They collected planks from the wreck and made a hut, propped up with spars and patched with torn sail. Then, *"with quaint solemnity, bowhiskered wig seals lay on rocks close to the workers, grunting the while, and wagging condemnatory heads. Glistening, brown, and with a superior air, they sat as judges in the kingdom, eyeing askance the intrusion of men."*

Quail and fish provided food for the seamen, but there was a lack of water. Sea spray, caught in rock pools was drunk after it had stood for a week or more. A celebration followed Cameron's discovery of a case of ginger ale on the wreck.

The wreck rolled on the rocks in the swell, threatening to pin the diver. On one occasion the diver's suit was cut by the wreckage. The attendants quickly got him to the surface wet and cold, but alive. On another occasion the sea was so calm and the water so clear that the crew in the boats could see sharks circling, attracted by the 350 drowned sheep.

A spell of bad weather shattered the hull. Cameron added a charge of gelignite to break free the engine mounts and attracted flocks of gulls to feast on the whitebait killed in the explosion. One of the most renowned commercial divers to visit Tasmania was "Johnno" Johnstone. His exploits have been covered in detail by Phil White in an earlier edition of "Marine Life Magazine". He recovered copper ingots from the "Karitane" in the 1920's and returned again in 1939 to lay a telegraph cable across Bass Strait. During the project Johnstone walked 27 miles across the seabed. At times the swell was so rough he had to shackle himself to the cable to stay on the seabed. His support vessel was the "Julie Burgess" now undergoing restoration in the Mersey.
The same year he won the job of blowing up Bombay Rock in the Tamar River. The Marine Board offered the rate of £16 a week, plus travelling expenses to accomplish the job. Perhaps twice a good average wage, but you had to risk getting killed to earn it.

The hours were long and the work demanding but once on the bottom the boss couldn't go down and bother you. One account recalls that diver Gaul of the Hobart Marine Board, would have a nap on the bottom occasionally after a hard night, betrayed only by the occasional sound of snoring over the diver to surface telephone.

By this time the pumper crews were being replaced by internal combustion engines. The 'hard hat' Siebe Gorman or US Navy suit was retained religiously by commercial divers until the Second World War. However, commercial divers were being asked to push themselves deeper and update their equipment. When Johnstone salvaged the "Niagara" in 1940, he broke depth records using a home-made diving bell. The war flooded the world with trained divers and men who knew how to use more compact and modern equipment.

The final word goes to the Marine Board staff, who in 1944 had been manually pumping air to divers for nearly a century, *"Our diving apparatus has come out of the Ark," said the Master Warden (Mr Piggott), referring at the meeting of the Hobart Marine Bd. yesterday to the fact that four men were needed to pump air to the diver when working at Hobart wharves. He stated also that one diver had complained' of lack of air -when working. It was stated that the board could get a modern air pumping outfit for about £140. It was decided to purchase new pumping equipment."*

Diver Gaul was the last hard hat diver for the Hobart Marine Board. When he had done 15 years of service repairing many of the wharves around Hobart he was replaced by SCUBA divers.

Critter Files

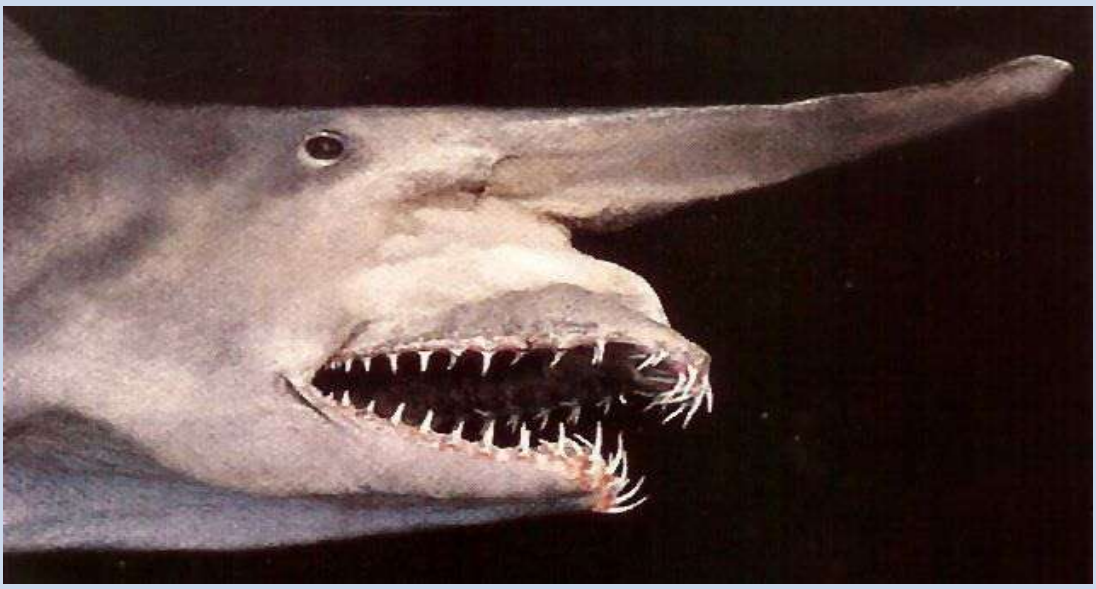
Creepy creatures of the deep, dark ocean

Lanternfish

Lanternfish are one of the most common types of fish in the open ocean, living in the deep sea to depths of 1000 m, with some 250 different species. They are bioluminescent, meaning they glow in the dark. They ascend from the dimly lit depths of their daytime habitat at 400-1000 m by 'vertical migration' after sunset to the upper 200 m where food is more readily available. During the summer spawning season, far off the north Queensland coast, large schools of lanternfish aggregate in shallower seas and attract predators such as whale sharks, billfish, tuna, dolphins, sharks and seabirds, creating a feeding frenzy. Fishermen have seen huge feeding and spawning aggregations of tuna and lanternfish stretching up to 10 nautical miles. On a recent scientific cruise, midwater trawls confirmed that the lanternfish spawning schools are just one species, the Dana Lanternfish. Although this species of lanternfish is very common off New South Wales and Tasmania, there has been no record of them spawning in the colder southern waters. The Dana Lanternfish, which grows to between 8-13 cm in length, may prove to be a "keystone species" because of its importance to the lifecycle of two of the most important species of tuna on the east coast of Australia, and unknown other species, in the Coral Sea.

Goblin Sharks

Mitsukurina owstoni is a deep-water shark usually found at depths of around 250 m to 1300M. Isolated specimens have been found in most of the world's oceans including off Australia. They are a pretty pink colour with bluish fins. Goblin sharks hunt by sensing the presence of prey with electro-sensitive organs in the snout, due to the absence of light in the deep water. Once a shark finds its prey, it suddenly protrudes its jaws, while using a tongue-like muscle to suck the victim into its sharp front teeth. They have been known to feed on deep-sea rockfish, crabs, and octopus.



Sea Angels

They're called sea angels, but are actually a predatory sea snail. This particular specimen, *Platybrachium antarcticum*, "flies through the deep Antarctic waters hunting the shelled pteropods (another type of snail) on which it feeds," according to the Marine Census of Life.

Sea Pig

Also called a sea cucumber or Holothuroid, this truly deserves the name sea pig. This was one of the most common and abundant animals caught off the coast of Antarctica by the international research team aboard the BAS Royal Research Ship James Clark Ross. Sea cucumbers are important in processing the sediment (like earthworms on land).

WHAT'S ON in June-July 2012?

WOULD you like to advertise an event with a marine flavor, or advertise a web address (local or national-wide)? Let us know! So far mostly only the scuba divers send us stuff.

Local (Tassie) happenings

SCUBA diving clubs online calendars

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

Coastal walks

www.hobartwalkingclub.org.au/html/fwdwlks.html

Sea and Shorebird sightings

www.eremaea.com/BirdlineRecentSightings.aspx?Birdline=3

AMSA-NZMSS 2012 joint conference

1-5 July, Wrest Point Hotel, Hobart.
The theme of the Australian Marine Sciences Association Inc. and the New Zealand Marine Science Society conference is *Marine Extremes - And Everything In Between.* A creative reflection of the environmental events of the past year, and covers extreme events such as cyclones, floods, tsunamis, dust storms, thermally-induced bleaching, hypoxia, ocean acidification, biological invasions or ecosystem shifts, to name a few.

Antarctic Treaty Consultative Meeting

In **June**, more than 300 representatives of 47 countries will gather in Hobart for the prestigious 35th meeting of the Antarctic Treaty Consultative Meeting, the annual forum for signatories of the international treaty which preserves Antarctica for 'peace and science'.

Combined [dive] Clubs Weekend 2012

9-11 June, Bicheno
The 7th annual Tasmanian Combined dive Clubs Weekend provides an opportunity for divers from all around Australia to come together for a weekend full of diving adventures. The event typically attracts over 100 divers resulting in all levels of experience and interests being catered for. Based at the iconic east coast town of Bicheno, the adjacent Governor Island marine reserve provides some of the best diving in Australia. Additional to the abundant dive sites, the weekend is full of social events, an underwater photography shootout, gear and industry displays, great prizes and competitions.
Check out the CCW website for more info.

Nation-wide stuff

VIC

Climate Adaptation in Action 2012, 'Sharing knowledge to adapt.', 26-28 June, Sebel Hotel, Albert Park, Melbourne

NSW

Dive festival, 25-29 July, Heron Island (see flyer here)
ODEX Oceania Dive & Ecotourism Expo, 6-7 October, Sydney

QLD

12th International Coral Reef Symposium, 9-13 July, Cairns

National Whale Day

2nd June - Launched in 2008 by IFAW, National Whale Day is a celebration of the whales and dolphins that migrate to our coastlines annually and Australia's position as a world leader in whale conservation. Join us by running or taking part in an event in your local area.
Email: rkathriner@ifaw.org
Website: www.ifaw.org/oc/our-work/whales/national-whale-day-2012-saturd-0

World Environment Day

5th June - World Environment Day aims to be the world's biggest and most widely celebrated environmental action event.
Website: www.unep.org/wed/

World Oceans Day

8th June - World Oceans Day is a chance to celebrate what the ocean provides for every person.
Website: www.theoceanproject.org/wod/

Day of the Seafarer

25th June - The Day of the Seafarer celebrates the unique contribution made by seafarers from all over the world to international seaborne trade, the world economy and civil society as a whole. Website: www.imo.org/About/Events/Pages/Day-of-the-Seafarer.aspx

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,
www.tudc.org.au/news/marinelife.php