



MARINE

Life

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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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Cover Photo; Tasmanian blenny – Emma Flukes

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Marine Life HQ



Last issue, some readers were surprised to find out from Emma that there is a Marine Life HQ. After a virtual avalanche of requests for more information, for the benefit of both of you, we enclose exclusive pics of our literary retreat. It's currently located 1.56 kms below the surface on the edge of the

Mariana's Trench. The solitude is great for writing, but the back pressure on the pump action toilet flusher is a bitch.



NATIONAL News Roundup

Call for Public Comments on seabird deaths

Oceanic longlining is a fishing technique used to target finfish and shark in open waters. Longlining occurs in almost all Australian waters. The impact of longline fishing activities on seabirds was not fully realised until the 1980s. The incidental catch (or bycatch) of seabirds during oceanic longline fishing operations was identified and listed as a key threatening process.

Information on the level and nature of interactions between seabirds and fishing gear has increased significantly and the 2006 abatement plan is being revised. Perhaps you agree, or maybe don't agree that "here is now increased confidence about mitigation measures that, when used in combination, are effective".



The Minister for Environment, Heritage and Water has released the consultation paper on varying the **Threat Abatement Plan 2006 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations** for

three-month public consultation until 31st October 2013. Check it out.



NT News

Darwin Harbour dredging

The new wharf and LNG plant in Darwin have caused a lot of dredging activity with grumblings from divers and fishermen that the alterations to the harbour are clouding the water, affecting fish life, changing currents and possibly burying local historic wrecks. The work is testing the otherwise development-friendly attitude of most Territorians.

The Darwin Port Corporation has lodged another application to deepen the commercial shipping channel, this time in the outer harbour at the Charles Point Patches. The work will increase the depth from 10.1 metres to 14 metres, creating 105,000 cubic metres of sand spoil that will be dumped to the side of the channel. As for the marine life, "Our studies at this stage show it really is only some small patches of soft coral, sponges and sand," a ports spokesperson said, but the application has triggered calls for a new planning arrangement for the dredging activity in the harbour. Concern is also growing about a planned massive jump in the volume of shipping activity. Large ship movements are currently restricted by the tides, but deepening the channel would allow access 24 hours a day. "The Port is critical infrastructure for the Territory's development but navigation hazards are limiting access for Panamax bulk carriers and LNG tankers to the harbour," Chief Minister Adam Giles said. Darwin Harbour may soon be taking up to 2 LNG supertankers a day. "The cumulative impacts of dredging for Inpex for East Arm wharf, and now this channel deepening, means that the impacts on the harbour are growing," Dr Blanch said.

The Department of Lands, Planning and Environment have given the public has until 4 October to comment.



SA News

Wreck of the "Zaoni" damaged



A recent inspection of the 148-year-old wreck of the "Zanoni" revealed broken timbers and a site strewn with fishing debris. "All the frames along the elevated edge of the starboard side have been snapped off, probably by an anchor chain being dragged along it," heritage officer Amer Khan

said. Copper sheathing has been torn off and timbers pulled away by snagged rope and one boatie has even dropped a makeshift cement mooring onto the wreck, crushing part of the portside bow and decking. Mr Khan suggested people were regularly anchoring and fishing on the Zanoni and had been for some time. "The sad truth is that they're slowly destroying this beautiful old ship," he said.

The 338 ton, three masted sailing ship was on a voyage from Port Wakefield to Port Adelaide and then to London with a cargo of wheat and bark when it sank in 1867 in a storm. The high salinity of the upper Gulf had protected it from shipworm making the wreck extraordinarily intact for a wooden wreck and she was declared a protected site within a thrice of being found.

All shipwrecks more than 75 years old are automatically protected in SA while the Zanoni has the extra protection of an exclusion zone because of its historic significance. The protection zone around the wreck bans all water activities without a permit, even simply steering a boat through the area.

Post-mortem of a fish kill

What REALLY happened in the recent SA fish kills? After a brief report in last edition, we've decided to deal with this issue in a bit more detail.



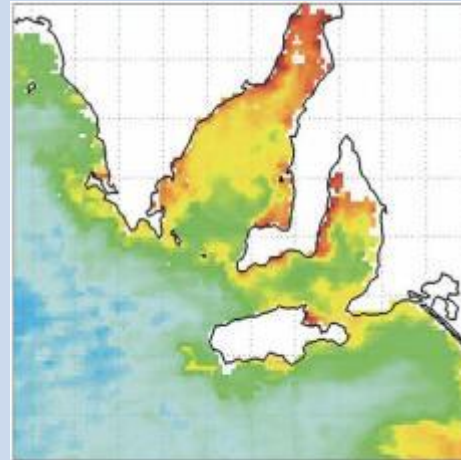
In early March 2013 small leatherjackets started washing up dead at Port Neill on the Eyre Peninsula. Then it started along the eastern side of Yorke Peninsula. A major wind change on 20 March, saw more wash up on Adelaide beaches culminating in a big mortality event at Easter. It was mostly thousands of small bottom-dwelling species that don't move around much. Only when it got really bad did it affect fast-moving fish like Snapper and King George Whiting, but only in small numbers. Then dolphins started washing up dead. No new reports of fish deaths along South Australia's coastline have been received since 24 April.

Scientists suggested there was likely to be a link to increased recent water temperatures and associated algal blooms. Public theories ranged from nuclear radiation to pollutants. One popularly held belief was that the Port Stanvac desalination plant was to blame, because of its hyper-salty brine discharge. Flinders University's Professor Jochen Kaempf wanted daily oxygen-depletion levels monitored to check the impact of hyper-saline water discharge from the plant. "I'm not saying that desal is to blame, but a more localised cause is much more likely than this official story," Professor Kaempf said.

Satellite images showed unusually warm water and high chlorophyll levels in both gulfs during March, coinciding with the fish deaths. Samples of fish ruled out infectious fish diseases but showed signs of prolonged stress and gill irritation. Water testing samples found a well-known algae diatom that is harmful to fish, *Chaetoceros*, but no proven link to the deaths. No single water quality or pollution point source was responsible. The EPA categorically ruled out any link to the desalination plant. In the end it was decided that it was the stress from all these factors tipping the fish 'over the edge' and making them more susceptible to disease. Morbillivirus was identified as the underlying cause of the death of the dolphins.

Final Verdict - During the first part of March, higher water temperatures were detected across both Spencer and St Vincent gulfs and much of the ocean waters, as far west as Fowlers Bay and reaching east to Bass Strait. A strong upwelling event of deeper, colder waters in early March helped start the growth of a range of micro-algae including blue green algae and a spiny diatom *Chaetoceros coarctatus*.

Satellites showed a 10 times increase in chlorophyll along the western side of both gulfs Spencer and St Vincent. Ongoing warm weather supported the growth of micro-algae. The fish got heat stressed and sick and probably died in large numbers well before wind changes deposited many of them on local beaches. Unless this climate event is somehow climate change related, which would be hard to prove conclusively, it appears to be an entirely natural and cyclical event.



Cuttlefish mystery – more information needed

Each winter, Giant Australian Cuttlefish gather at Point Lowly, near Whyalla, for breeding. They have been a big tourist attraction in the area. Concerns have been raised that cuttlefish numbers are declining from about 200,000 in the late 1990s to about 13,000 this year. The local dive tourism operator, Tony Bramley, has given up and told people to stop coming, "...they may as well go off the coast of Adelaide. You'd see just as many cuttlefish and bigger ones as well. Some have suggested that the big population was abnormal and that it is now returning to a normal level. Mr Bramley is sceptical and says too little was done too late. Recent bans on fishing for cuttlefish in the region were a positive move, with marked differences in fish numbers in areas closed to fishing when compared to those still being fished.

Professor Gillanders called on recreational scuba divers and fishers to record any sightings or catching of giant cuttlefish on the community mapping website [Redmap](#). Contributors are asked to log other details like the sighting of eggs and juveniles. "That will be critical to us trying to identify other potential, smaller aggregations."

Speaking of Redmap...



This interesting Painted Anglerfish was recently snapped in NSW and reported by a diver. It occurs in marine waters throughout much of the tropical and temperate Indo-Pacific. In Australia it is known from the central coast of Western Australia, around the tropical north of the country and south to the New South Wales central coast. The species grows to 16 cm in length.



Queensland News

Homes still damaged in Bundaberg

Recently we covered the impact of cyclone Oswald on the Queensland town of Bundaberg in terms of human and natural resilience to natural events.

That was January when 2,000 Bundie homes had water over the floorboards. By August, only about 600 had been repaired and were fit for occupation. No repairs have been started on about 700 homes. Families lucky enough to have flood insurance cover are in rented accommodation provided by the equally long-suffering insurer. "I have been on certain jobs where people are still living in tents or sheds and accommodation they can put on their property," a council officer said.

A flood study of the enormous Bundaberg catchment, billed as groundbreaking, has been finished. It is a major part of a new plan to be released in May 2014, that will tell residents when rivers are at certain heights what that means for their homes. "Whether they need to evacuate, whether they need to sandbag their homes, all those types of things," Councillor Batt said.

The Council used a car with sophisticated technology to measure floorboard heights of homes in flood-prone areas, replacing the old method of surveyors physically going to individual homes.

Floods cause of fish sickness in Gladstone Harbour

The Department of Agriculture, Fisheries and Forestry's investigation of fish health in Gladstone harbour found that the 2011 floods were the main contributor to ill health, not dredging and industrial operations. The only factor that was different in 2011 compared to previous and following years was the significant rainfall, the subsequent flooding and introduction of large numbers of fish from Lake Awoonga, which stressed the ecosystem. This stress led to fish being more susceptible to parasites that contributed to the conditions observed in fish.

Test results confirmed the parasitic flatworm (skin fluke) on some barramundi caught in the Gladstone area. A different parasitic flatworm was identified on sharks. Shell erosion was detected on crabs and prawns, which is due to relatively common bacteria. Fish health in Gladstone has now returned to a more normal situation, with market reports finding most fish in good condition and a low incidence of shell erosion on mud crabs.

The Australian Marine Conservation Society said instead that the report has been "inconclusive". The report did not emphatically rule out the impacts of dredging and dumping. Further, "a recent statement signed by over 150 Australian scientists highlighted the risks to the Reef, its wildlife and its health from industrial expansion, dredging and dumping...while floods occur regularly up and down the Queensland coast only Gladstone experienced these extreme examples of environmental damage with sick fish..."

"We are still waiting on the findings of the Independent Review into Gladstone Harbour being undertaken by the Commonwealth."

Service for South Sea Islanders graves in Bundaberg



This month marks the 150th anniversary of the arrival of the first South Sea Islanders to Queensland, brought as cheap labour. A commemoration service has been held at Sunnyside Plantation, a potato farm outside Bundaberg that contains 29 unmarked graves.

The graves are the final resting place of South Sea Islanders brought to Queensland to labour in fields. Between 1863 and 1904 about 62,000 people from 80 Pacific Islands, but primarily Vanuatu and the Solomon Islands, were brought to Australia. The Queensland government attempted to regulate the trade by requiring every ship engaged in recruiting labourers from the Pacific islands to carry a person approved by the government to ensure that labourers were willingly recruited and not kidnapped. However these government observers were not effective as they were often corrupted by bonuses paid for labourers 'recruited' or blinded by alcohol and did nothing to prevent sea-captains from tricking islanders on-board or otherwise engaging in kidnapping with violence.

A 2001 recognition statement passed by Queensland Parliament recognised that "many people were tricked into coming, others were kidnapped or "blackbirded". "Men, women and children were forced to work long hours at exhausting manual work for low or no wages while living in very poor conditions."

It added that "many were treated like slaves - in the early 1880s, the death rate among South Sea Islanders was five times higher than the comparable European population". Then as White Australia Policy

dominated they were no longer wanted. Between 1906 and 1908 most South Sea Islanders were deported. Some people remained and Matt Nagas is a member of the local South Sea Islander community. He applauds efforts to have the 29 unmarked graves recognised. "It helps with the healing process, knowing we've out our ancestors to rest," Mr Nagas said.

He believes it is only "one of hundreds of sites around Bundaberg". It is believed that there are 15,000 Islander people buried throughout Queensland in unmarked graves. "No-one's put their hand up to say where they are.

The owners of Sunnyside Plantation are some of the few to openly recognise the existence of such graves. "I'd like to see other people come forward and do the same thing." Mr Nagas said.



TASSIE News (that 'other' island)

New report on nutrient inputs and salmon farming



Fish farms use heaps of processed fish feed, leading to large amounts of potentially harmful nutrients entering our waterways.

Nutrient loads in SE Tasmania are a matter of concern. Fish farms are worried about it promoting algal blooms that will affect consumers, while environmentalists also worry about ecosystem impacts. A previous CSIRO study of the Huon system indicated that aquaculture contributes around 25% of total nutrient loading (human related inputs make up about 50% of the total nutrients in the river). Official assurances were given that there was nothing to worry about, usually a red flag to environmentalists who have heard it all before. Eventually this reticence gave way to more a considered research proposal.

The Institute for Marine and Antarctic Studies (IMAS) has now completed a scientific assessment of the D'Entrecasteaux Channel and Huon estuary ecology to determine if nutrient emissions were having adverse impacts in the area. The report basically gave fish farming in the area the 'thumbs up'.

The DPIPWE spokesman said, "Assessment of the monitoring data has shown that at current levels of industry production, which are capped, the ecosystem has the capacity to assimilate the inputs from salmon farming activities as well as other human produced sources."

IMAS Director of Fisheries, Aquaculture and Coasts Centre Professor Colin Buxton said the report showed that although there had been a detectable level of change in some nutrient levels that would be associated with the salmon farming industry development, these did not translate into significant or adverse environmental effects to the water quality or sediments.

Of course scientists don't actually produce such glowing and unequivocal reports. The report actually came with way more qualifications and noted the usual data gaps. There were cautionary comments. The waterways are noted for natural variability anyway, so it's hard to tease out what fish farms are adding. The water column testing showed that, "...a number of system changes appear consistent with anticipated responses to increased inputs of organic matter and nutrients". In the Huon Estuary this seems to be partly due to "...increased inputs via excretion from farmed fish associated with the industry expansion. Lack of comparable ammonium and oxygen data in the Channel "...obfuscates meaningful assessment in the Channel". They did say that "despite the changes in ammonium and oxygen concentrations in the Huon Estuary there is no clear evidence of a concomitant change in water column productivity (i.e. phytoplankton biomass). There is some indication ... that phytoplankton composition may have changed in the Huon and Channel". Some trigger levels for harm were exceeded but generally in the "low risk" zone.

The analysis of the mud on the bottom was more emphatic. "Evaluation of sediment condition and infaunal community relationships...suggests no evidence of any major broadscale impacts of salmon farming at present in the Huon / D'Entrecasteaux Channel region.

So good news so far for fish farmers overall, but it's no reason to take our eyes off the ball just yet. Ongoing monitoring and study will still be needed.

Truly incredible Tasmanian sea monster sightings

Hobart, May 2nd, 1913



An account of the appearance on the west coast of Tasmania of a strange sea monster has been forwarded ... It was seen 12 miles north of Point Hibbs by Oscar Davis, prospector, and his mate...when they were walking along the coast. They first saw it at a distance of half a mile, and got to within 40 yards of it, when it rose suddenly and rushed into the sea. After going half a chain it stopped and turned round, showing only its head and part of its neck. It was 15 ft. long, as checked by stepping it's mark in the sand where it had been lying. It had a small head about the size of a dog's, a thick arched neck, passing gradually into the barrel of the body and no definite tail or fins. It was furred, of a chestnut color and attractive appearance, and had four legs and travelled rapidly by bounding. The footprints were circular, and there were marks of four claws about 7 in. long, but no evidence of webbing.



When first disturbed it reared up on it's, hind legs, and then.. appeared 3'ft. 8 in. high. It bore no resemblance to seals or sea leopards.

[Hey Bro', I don't know what he is on about either – young elephant seal, photo; Simon Mustoe]



Yellowtail Kingfish – Magical encounters

- by John Kelley

(Source references: Australian Museum Fish Site & "Australian Fisheries Resources" 1993)

One of John's memorable fish encounters was a dive at Cherub's Cave in Moreton Bay Queensland.

Suddenly, out of nowhere, you are surrounded by a school of 300-500 Kingies whirling around you in a tight circle. You can't help but be impressed. I was feeling like the centre pole of a washing machine as they zoomed clockwise then (with a chaotic change) counter-clockwise. Then something went "bang" (who knows what?) and they straightened in a tight school in an instant.

They say kingfish keep together thanks to the sensitivity of their lateral line receptors. There are, apparently, small organs called "neuromasts" in a groove running the line of each side of the fish or generally over its body. Under a microscope, these neuromasts contain little gelatinous cups with hairs. Sounds like something you left out of the fridge too long! These hairs pick up the vibrations (then giving me excitations) and the nervous system figures out the change of direction left, right, up, down, fast, slow (and any other things if any are left). It sure must be sensitive and the calculations of change sure are fast.

My dive buddy was some short distance away and from my perspective it looked as though the Kingies were swirling around me and not him.

He later told me that from his perspective it seemed they were swirling around him and not me! However, I've got the pictures.

Strangely enough we had been discussing the feeding habits of Kingies earlier (on the boat of course) and it crossed my mind that this was their pattern before they strike. What a mess 500 Kingies would have made of me if they were that way inclined.

I think part of the Kingies' "charm" is that they have that "straight-ahead", determined look. Their swimming technique probably is largely responsible for this. Apparently it is called "crangiform" swimming where the fish moves its head very little and its tail a lot. Its tail also has a scooped-out centre and presents a small surface area to the water in relation to its span. Are you following this? Anyway there is less turbulence and the torpedo-like, compressed body shoots forwards at great speed.

They came out of nowhere, swirled and whorled for a time around us and then were gone. Although they seemed to be travelling through, studies have shown that Kingies up to 60cm (they can reach 1.9m) stick around a 50km range. Some of the larger ones apparently travel quite



a way eg NSW coast to Lord Howe, New Zealand or Victoria. Little is known about the life history except that they spawn offshore and juveniles appear to hang around floating objects offshore. Let's hope these large school return to Moreton and pass by Cherub's Cave again – while I'm there.

Yellowtail Kingfish *Fast Facts*

- by Michael Jacques

The Yellowtail Kingfish can grow up to 2.5 m in length and can weigh up to 70 kg. The Yellowtail Kingfish occurs in tropical and temperate waters of the southern hemisphere and the northern Pacific. In Australia, it is recorded from North Reef, Queensland (23°11'S) to Trigg Island, Western Australia (31°52'S), and as far south as Tasmania.

The Yellowtail Kingfish is a pelagic, schooling fish, usually seen as adults in small to large numbers. In general they inhabit rocky reefs and adjacent sandy areas in coastal waters and occasionally enter estuaries. They are found from shallow water down to depths of around 50 m, although have been caught from over 300 m.



Females are believed to mature at around 75 cm total length. Young fish up to 7 kg are known to form shoals of several hundred fish. They are generally found close to the coast, while larger fish are more common around deep reefs and offshore islands. Juveniles are yellow with black bands. This colouration fades as the fish ages.

Kingfish have been shown to migrate widely. Whether they appear in an area probably depends on recent fishing activity, spawning success and other environmental factors.

They were common in the early days of settlement even as far south as Tasmania, then appeared to contract their range in the 1880s. A Hobart Mercury article of 1944 notes, "*The mystery which surrounded the disappearance from Tasmanian coastal waters of the kingfish, still fresh in the minds of many old fishermen, has never been solved... Fifty or 60 years ago the kingfish, noted for its edible qualities, was abundant periodically in the waters of Southern Tasmania, particularly around Adventure Bay, Recherche, and Wedge Island. Then it disappeared, and, except for isolated individual catches, has not been seen since.*"

When fishing records started, the catch rates in the post war period were low, then peaked off NSW in the late 1980s, only to drop again. After the banning of Kingfish traps, their population has climbed again and they are more regularly seen in Southern Tasmania. Report any Kingfish seen at the extremes of their range to www.redmap.org.au

New Pollution Strategy for Adelaide's Coast

a commentary by Mike Jacques



The Adelaide Coastal Water Quality Improvement Plan acknowledges that everyone in S.A. has been complaining about issues of poor water quality, loss of seagrass, declining reef health and sediment instability for the last 60 years. The new strategy is a bit of an aspirational plan to do something about it in the "next 20 to 40 years".

The report deals with the Adelaide metropolitan coast, being the 70km from Port Gawler in the north, to Sellicks Beach in the south and out a few kilometres offshore.

Nitrogen and sediment inputs are the main contributors to Adelaide's poor coastal water quality and seagrass health. The region has suffered from high industrial, wastewater and stormwater outflows. These outflows have promoted the growth of epiphytes (smothering plants and animals) and leads to reduced light reaching seagrass. This ends up destroying the seagrass ecosystem and alters the structure of the coastal waters and habitats. This is destroying local beaches, clogging ports and threatening coastal buildings.

There is a lot of talk in the report about communal values including the coast's high aesthetic and scenic value, a carbon storage value

associated with the seagrass beds, high ecological value and cultural and spiritual connections.

There is a big admission that ACWQIP isn't a total answer, it is "a facilitating document that provides a common vision and expects input from all partners to achieve successful outcomes. Through consultation it has established community agreed environmental values (EVs) and a range of water quality objectives (WQOs) that inform management strategies and provide a structure against which to benchmark and monitor changes in the coastal waters". "The ACWQIP culminates in eight strategies, which complement and encompass the 14 recommendations".

Only 2 recommendations rate a mention in the glossy brochure, a reduction in nitrogen loads of approximately 75% from 2003 levels and a reduction in sediment loads of 50% from 2003 levels.

The strategies are,

1. Reduce discharges
2. promote reuse of wastewater and stormwater
3. investigate sources of discharges
4. Integrate monitoring
5. evaluate impacts of climate change, human impacts and population
6. investigate growth implications for Adelaide's coastal waters
7. Establish planning and funding priorities for water initiatives
8. Undertake seagrass mapping and rehabilitation work
9. Build community capacity to take action

The release of the Adelaide Coastal Water Quality Improvement Plan has been 10 years in the making and was criticised as being delayed for too long.

Dr Graham Harris, defended the time taken to prepare the plan. He said the plan would be significant for the recovery of gulf waters. "I wouldn't say it is drastic but this is a very significant cut in nitrogen emissions and particulate levels by 2030."



The Environment Minister, Ian Hunter, ever so slightly poured (dirty) cold water on any expectations that we are about to immediately clear up the Gulf. He said the changes would be significant for industry and bodies like SA Water. This plan adds to a swag of strategies and studies that have repeated the same message since at least 2001, and the plan might be relevant not so much for its "values statements", as the institutional and industry cooperation that might flow incidentally from it.

For my money the plan had a few too many motherhood statements and not quite as much coherence around the 'doing' and 'spending' frameworks. There may well be good reasons for it, but it is convenient that a reduction based on a 2003 target includes instant gains from already completed major projects.

"SA Water have undertaken a major capital development of their wastewater treatment in the last 10 years... Given the above and the need for further work to other WWTPs ... further major capital works at the Bolivar WWTP is not proposed within the initial ACWQIP period". It's a bit odd there weren't some more detailed requirements put on SA Water. I acknowledge that a lot has been done, but so much is needed. The Bolivar plant is now the source of 70% of Adelaide's wastewater. It is a clever plant but the previous 'plan' was to reduce its output of nitrogen to 100 tonnes p.a. by 2015, but in 2010 it was running at 577 tonnes after a \$100 million spend. Bolivar will be at full capacity by 2020 and a lot more money is needed just to keep nutrient inputs at present levels. The smaller plants are sometimes old and dirty, but less

cost-effective to upgrade. Water recycling schemes need a lot of pipes and a lot of borrowed cash, not everyone wants to pay the full price in taxes and charges. It's a tough ask, but there wasn't much tough talk in the plan. Maybe that explains why the Report didn't have so many of the usual cautionary institutional submissions with scary costings and complaints about compressed timelines.



At the time of the report Penrice Soda Holdings had long been contributing the highest single amount of nitrogen to Adelaide's coast, although that was reducing. Penrice weren't told to do anything additional under the

plan, but did their bit for the targets anyway by losing money and closing down their soda ash plant with the loss of 60 jobs. The remaining bicarbonate production using imported soda ash is unlikely to generate as much pollution, as the really dirty part is being done in someone else's backyard. On that basis we might get to the targets more easily than expected, by contracting away our pollution impacts.

I might be too cynical, but what's wrong with a bit of public focus and some slightly soft aspirational targets? Adelaide Uni is very keen and hopes this report will lead to the revival of Adelaide's lost kelp forests. Everyone else seems optimistic that their favourite fishing bed and beach will be soon restored. Only a few spoilsports were cautioning about "timely implementation and adequate resourcing" of the plan.

One thing the EPA has repeated frequently is that they want more community involvement. I assume this is code, that a lot more community pressure on government is needed to make them back their 'good news' plan with some hard, messy, on-ground action. Action backed up with real green folding stuff.

FEATURE - VIC

Ricketts Point Marine Sanctuary

photos Phil Watson; text Mike Jacques

Next time you are in Melbourne killing time, there are a few interesting marine spots you can visit within easy reach of the city.

Only about 20 minutes from the Melbourne CBD, a short area of the Port Phillip Bay coastline has been reserved. I'd describe the small 115ha sanctuary, stretching only 500 metres out to sea, as more recreational and educational park than full on scientific/conservation reserve, but she is a gem none the less. All this is communing with nature is only a stone's throw away from the cafes and shops of Beaumaris, Black Rock, or Mordialloc.

When I last visited Melbourne I went AWOL from the in-law's nearby BBQ. The tide pools are swarming with life, mostly ankle-biters from the local scout group, or day care centre. The low sandstone platform looks a bit algae-encrusted and trampled, but there are still plenty of adventures going on in the rockpools. There is something special about the exhilarated squeals of delight at a child finding a crab, a fillip for this jaded old spoilsport.

Once done with the rock pools there is a nearby beach patrolled by the life-saving club, at least during Victoria's week long summer. During hotter days, expect a crush and maybe some car park rage. Melbournians are use to that, but it was an eye-opener for a hillbilly from the 'deep south'.

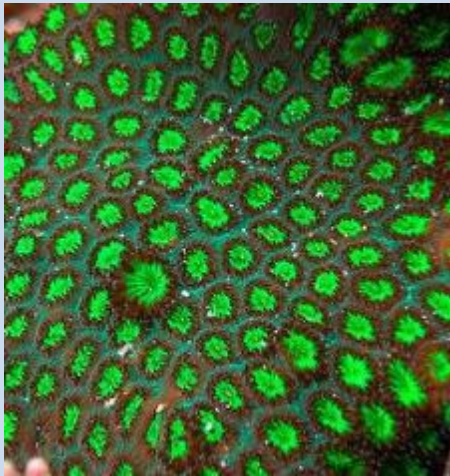


Port Jackson shark , Phil Watson

Near the shore, the rocks are covered with green and red algae which shelters a range of inter-tidal invertebrates including brittle stars, bristle worms and crustaceans.

Offshore there are sea caves, silt and sand flats and offshore reefs for snorkellers and divers. The depths are shallow, in the 3-5 metre range, and I'd suggest towing a marker buoy to alert the sometimes thick local boat traffic. Pick a calm day, as being shallow and exposed to wind from the south or west the bottom can get stirred up on a windy day. It can also get murky after very heavy rains.

Boat access is from Black Rock or Beaumaris and most of the diving is done between the offshore white triangular marker and the green navigation pole. There is good fish life on the outer edge of the reef, zebra fish, snapper, leatherjackets, red mullet, dusky morwong, magpie perch, sea sweep, scaly fin, old wives, and stingrays. In deeper waters, rock bommies are carpeted in either green Caulerpa or brown Sargassum. There is a some temperate stony coral (*Plesiastrea versipora*), nudibranchs, feather duster worms, cleaner shrimp and sea stars. The surrounding sandy bottoms are covered by patches of seagrass, which attract a range smaller fish species.



Corals in the cold - temperate stony coral is found at Ricketts Pt

This tiny park has little to offer local fishermen, but the marine reserve proposal still caused 15 years of bitter wrangling when first floated in the late 1980s. Now it is managed by Parks Victoria with active local community involvement through the Ricketts Point Marine Care group. The group performs biodiversity monitoring in the area and runs a regular snorkel day program (see www.marinecare.org.au/). The

society also has habitat mapping for the entire park on its website.



Leatherjacket and Zebrafish, Phil Watson

FEATURE - TAS

New Years Islands – a marine reserve for King Island?

On New Years Day 1801 the brig “Harbinger” charted and named a pair of small islands off King Island. Shortly afterwards other mariners reported the Bass Strait islands to be rich in fur seals and this started a ‘rush’ to Bass Trait.

The snow brig “Harrington” killed 600 sea elephants and 4300 seals, principally operating from around New Year Island. This started a killing spree that French explorer Baudin lamented when he visited King Island in 1802. Capt James Kelly was still able to collect a few hundred skins when he arrived about 15 years later, but by then the seals had been nearly wiped out.

Once the larger vessels had decimated the herds, small time sealers, usually escaped convicts and other misfits, picked over the remaining seal herds using small boats. Most of the work was done by Aboriginal women who had been kidnapped from the Tasmanian mainland. One example of the standard of employee you got in a sealing gang is shown by the 1826 voyage of the sloop “James” from Melbourne. She stopped at the islands to trade for any skins that might have been collected by local sealers. As soon as the captain left the ship the crew cast the boat ashore and looted the wreck. Two Europeans and two Maori crewmen then absconded to King Island and joined up with local sealers.



By the 1830s the sealing gangs had dwindled to one family. John Scott ("Old Scott") started out on the New Year Islands, but later moved to the King Is shore opposite. By then they were living off wallaby skins and mutton birds,

rather than seals. Scott had two Aboriginal women with him and 4 children. He may have 'acquired' his women from the violent George "Geordie" Robinson who left the island in the late 1820s, complaining about being strong-armed off the island by other sealers.

Scott is mentioned in an 1835 account of the "Neva" wreck. *"Scott's residence was opposite New Year's Island not far from the shore; there he had built a hut and planted a garden with potatoes and other vegetables. Flesh meat he obtained from the kangaroos and seals. Their skins he took to Launceston in his boat, and in it he brought back supplies of flour and groceries"*.

He also burned the islands and tried to run sheep and pigs. In 1843 Scott went out in a boat to help the stranded ship "Rebecca" and was drowned in heavy weather, along with his youngest daughter. By the 1850s the Scott family were all gone. The islands returned to being a quiet haven for wildlife, with occasional visits from sheltering small craft. Then in the 1860s some enterprising Chinese arrived and revived the old garden on New Year Island.



"At one time there was a fishing station on the north island, several Chinamen having been engaged for many months in crayfish catching, but it was abandoned about two months since [1878]. Crayfish are very plentiful among the kelp near

the edge of the rocks and it is stated that as many as 30 dozen have been taken in one day. Upon landing we found that the Chinamen had formed a garden near their hut, and plenty of good cabbages and turnips were still growing. The seed of these plants had been carried along the land for more than half a mile, and had sprung up freely, showing the goodness of the soil on South New Year Island. A large quantity of mammoth turnips were also found growing wild."

The Chinese were later forced out by harsh immigration laws that caused most of the Australian Chinese community to emigrate. The island was then leased for grazing to a Mr Nichols, but it seems that not much came of the plan. The islands once again reverted to nature. One species of wildlife that never seemed to diminish were the snakes. An 1872 hydrographic survey party, noted *"the northward of these was*



found to be literally swarming with snakes; a dog was bitten, but saved by repeated doses of spirits of ammonia and brandy. Some of the men had narrow escapes, and although there was very little wandering about, yet in the two or three times that the island was landed upon, nearly 15 snakes were killed".

"The North Island is largely resorted to by the mutton bird, so common in the Straits. The holes are sheltered by a small thick growing shrub and as they are often taken possession of by snakes, it is somewhat dangerous to tramp over the ground used by these birds, as a man will sink over his boot tops at every step, with the unpleasant possibility of being brought into close proximity to a large black snake. We saw several of these reptiles from 5ft to 6ft long.

There is, however, an immense quantity of fish about the coast, as we found out by drawing the net one moonlight night...the first cast filled it. Eight stout, able bodied men were unable to move it, the bulk of the

net being a solid mass of fish. It was estimated that there was at least five tons of good food... the fish consisted of salmon trout [Australian Salmon]."



The remoteness of the islands excited the curiosity of some Melbourne naturalists. They visited the adjacent coast in 1887 and commented on the marine life,

"Amongst these rocks at low tide many interesting sea forms were found the ear

shell, various species of the limpet, the curious shell chiton, one of the most interesting and primitive of molluscs and peculiar in the possession of eight shells arranged along its back, a considerable number of sponges, starfishes, and sea anemones, whose colours were beautiful...the rock pools, had a great variety of sea weeds, specimens of all of which were brought home. Along the shore great quantities of kelp were thrown up,"

By 1888, the islands had been ravaged by runaway fires. *"Wild cabbages and celery grow in abundance on one of the islands, and on another turnips, which were of splendid size. Otherwise, the islands were quite barren. There used to be a large mutton bird rookery on one of the islands, but the latter had been fired, it is said, by the crew of the Lady Loch, and the rookery is consequently spoiled."*

In 1915, a local farmer, Mr. Herbert Shaw led a party of settlers to the island in their motor boat "Pioneer". They were planning to set up a "Utopia" on the islands. The idea was to make a living from fishing around the coast, and marketing some of the millions of mutton-birds that inhabited the small islands at the northern end of King Island. The

first reality check came when they killed 2,500 tiger snakes in the first year alone. The venture lasted barely a year.

The islands then became the sole domain of William Scott who leased the islands from at least 1921 to 1950, making his living from fishing. There are signs of habitation on the east coast of Christmas Island. He had moorings set up at the anchorage and used floating corfs (baskets) to store his cray catch. Others caught on to the idea and soon mooring space was in demand with up to 5 boats using the anchorage by 1937. This safe anchorage was still dangerous in a big storm, and the island claimed a steady toll of fishing boats, "Unique" 1910; "Pearl" 1929; "Orazu" 1931; "Warren Kerr" 1932; "Saguenay" and "Star" 1934 (4 deaths). Other vessels that have broken their moorings at New Year include, "George" sloop 1803; "Rebecca" 1843; "Maria" brig 1853; "Helen Ann" schooner 1855; "Katherine" schooner 1861; "Dart" schooner 1874.

Many of the cray boats were from Victoria rather than Tasmania and that excited the jealousy of local fishermen, even the ones who didn't work the area. An 1941 account of a fishing trip from Queenscliff gives an idea of the lifestyle. After getting to the island and checking their moorings, the crew set off to net for cray bait,

"Three salmon and half-a-dozen couta had been taken, but a persistent porpoise, playing about the boat, had frightened everything away. "Try your hand with the gun" said Dogger. "It's an easy mark." The lurch of the boat and the eel-like motion of the porpoise found me wide of the mark. "We sometimes shoot some and they make fine bait for the



pots, it saves a lot of trawling and fishing."

They then went to check their pots, "A winch above the engine room gangway operated from the flywheel, hauled the pot to the surface. It was all hand work until this season, and hard work, too. But the haul was not really up to expectations. Ten three quarter sized crays, 15 inches and over from the rostrum to the end of the tail were handled, but half were females and had to be thrown back. The haul, however, justified shooting the pot again. No. 2 yielded 20 good-sized crays, and No. 3 and 4 were in good ground. The prevalence of hermit crabs at No. 5 suggested that the ground was unsuited. These fishermen read the signs of nature like a book. "This one will be a dud or I'm no fisherman," he was right. No. 6 produced only a few small crays...The fishermen must work the round of the clock to have sufficient catch for the mother ship, Halloween, which has a capacity of 100 dozen crays. They are a community all on their own, these salts of New Year Island and they take risks cheerfully."

Seabirds

Today every square inch of space on the islands with suitable soil is inhabited by seabirds. There are nearly 600,000 mutton birds breeding on New Year Island and over 400,000 on Christmas Island. There are also 200 Fairy Prions on New Year Island and both islands also have a few Silver Gulls, Pacific Gulls, Pied and Sooty Oystercatchers and Black-faced Cormorants. There are also 24,000 Little Penguins on Christmas Island. On the foreshore land there are Swamp Harriers, Ruddy Turnstones, Sanderlings, Hooded Plovers, Red-capped plovers and Lapwings.



Seals

Seals have been slowly returning to New Year and they are now the subjects of passionate study, rather than savage hunting. Recent tagging experiments have included seals that bask intermittently on New Year Island. One male named "Otis" was fitted with a satellite tag (before broke it). They found that seals at New Year could come from anywhere but mainly arrived from breeding colonies on Seal Rocks in Victoria, or Reid Rocks at King Island. Seals can move around a lot, going even as far away as SW Tasmania on foraging trips.

Two tagged bulls foraged mainly in north western Bass Strait, between King Island and Cape Otway. Three other bulls foraged widely, over several thousand square kilometres. Otis' best effort was to travel 243 km in a few months while looking for food. All feeding seemed to happen on the continental shelf in water depths less than 100-200 m.

Underwater life



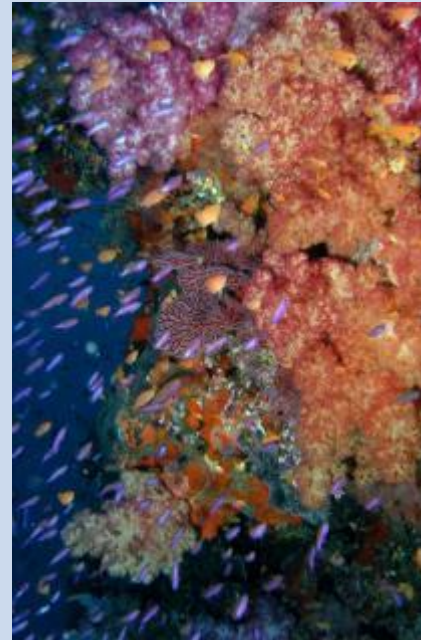
In 2000, the New Year Islands were visited by Dr Graham Edgar and Dr Nev Barratt to assess the areas marine life. The north side of New Year Island has only slight exposure to the big seas, and has a surprising range of delicate algae like *Acrocarpia* and various species of *Cystophora* and *Sargassum*. Of the sites surveyed at King Island, New Year Island had more diverse life, a bit more like the more sheltered Tasmanian mainland coast. The ubiquitous kelpie, or Purple Wrasse, was everywhere and shared the reef with lots of leatherjackets, Magpie Perch, Boarfish, Zebrafish and groups of Old Wife. King Island invertebrate communities may not differ a lot from those found at similar habitats on the northern Tasmanian coastline. Abs and crays are relatively common, while warrener (periwinkle snails) are thick amongst the seaweed on more exposed sites.

An investigation of the eastern coasts of the New Year Islands revealed extensive seagrass beds dominated by *Posidonia sp.* and these were the only seagrass beds found during the King Island survey. The life found during the survey included species not generally found south of Bass Strait and not presently represented in existing Tasmanian marine reserves. These included 5 macroalgal species, 4 megafaunal invertebrate species and 10 fish species.

There are few bays or headlands along the King Island coastline that offer such sheltered habitat. The waters surrounding the New Years Islands appear to be the most appropriate area to protect as a marine reserve. They encompass a wide range of habitats including deep and shallow reef, exposed reef, sheltered reef, and seagrass, all within close proximity. Of the sites investigated during the King Island survey, New Year Island had the greatest fish diversity. In other words, there is something special about the New Year Islands, something worthy of visiting, savouring and protecting.



[unrelated] Benita's coral reef holiday snaps



Photos; Benita Vincent



Hey Benita, look at my holiday snaps, despite being laid up in my hotel room with 'Bali Belly', I managed to photograph even MORE wildlife I bet you've never had a dive like this one!

[Thanks for the photos Benita, they're great]

Dance of the Storm Petrels

text by Mike Jacques



Petrels have inspired us for centuries. Early sailors would see them flock to the shelter of the lee side of sailing ships as the birds sensed the approach of a storm. Storm petrels also perform a strange dance along the surface of the water, as if they were walking on water.

White-Faced Storm petrels will hold their wings motionless and at an angle allowing the wind to push it off the water's surface in a succession of bounding jumps. It will also occasionally feed by pattering their feet on the water's surface. Wilson's storm petrels also feed by running along the surface of the water with wings outstretched and the bill (or their entire head) submerged in the water to scoop in their food. They were seen to be a warning from God of an approaching storm. "Petrel" is only a corruption of "Saint Peter".



Breton folklore holds that storm petrels are the spirits of sea-captains who mistreated their crew, doomed to spend eternity flying over the sea. In Russia they are known as "the announcer of the storm" and have been a popular symbol among revolutionaries,

Up above the sea's grey flatland, wind is gathering the clouds. In between the sea and clouds proudly soaring the Petrel, reminiscent of black lightning.

Glancing a wave with his wingtip, like an arrow dashing cloudward, he cries out and the clouds hear his joy in the bird's cry of courage.

In this cry -- thirst for the tempest! Wrathful power, flame of passion, certainty of being victorious the clouds hear in that bird's cry...

Thunder sounds. In foamy anger the waves groan, with wind in conflict. Now the wind firmly embraces flocks of waves and sends them crashing on the cliffs in wild fury, smashing into dust and seaspray all these mountains of emerald.

And the Petrel soars while crying, reminiscent of black lightning, like an arrow piercing the clouds, with his wing rips foam from the waves.

So he dashes, like a demon, - proud, black demon of the tempest, - and he's laughing and he's weeping . . . it is at the clouds he's laughing, it is with his joy he's weeping!

..Maxim Gorky

Many species of storm petrels are seen off the Australian coast. Several species of storm petrel including grey-backed, black-bellied and Wilsons can be locally numerous, but they are hard to see from land. They only come ashore to breed on fairly remote islands and only on moonless nights.

Fortunately, they are widespread and not considered to be under threat. With luck it seems like they will continue to fulfill their destiny, to soar for an eternity over our oceans.

Swan River drama

by Mick Lee



There was some jumping up and down recently when the the WA Government announced the 2013/14 budget in August, especially from the green groups hoping for some more protections for the Swan River. Apparently at the last election a slab on money was promised to help clean up the river, but it seems as though WA has underbudgeted and subsequently has realised they are unable to afford that. Somehow, Western Australia - the resource rich state - is apparently broke. But the

Swan River still has water in it so it can't be that bad ... right? Well I thought I would delve a little deeper and see what all the fuss is about and what could possibly be hurting the Swan River.

The Swan River System

The Swan River system is actually made up of two rivers, the Swan and Canning, that flow through metropolitan Perth. The Swan River starts some 280 kilometres to the east where its begins as the Avon River and end up draining into the Indian Ocean at Fremantle. The Canning River is 110 kilometres long and joins the Swan River near Perth. Both river system and their tributaries drain a catchment area of close to 2,100 square kilometres.

The whole river system is relatively young and was formed from geological conditions some 10,000 years ago. Prior to western settlement the river was brackish with the river mouth closed off by a sand bar at Fremantle. This river mouth provided the natural flushing system for the river and during heavy flood or rains the mouth would open and flush any sediments out and allow a cycle of sea water to enter the system and neutralise the water. With western settlement, Fremantle was identified as the perfect site for the port to service Perth. The river mouth was permanently opened and the surrounding area dredged. Since then, the impacts on the Swan River system have increased substantially.

So what are these impacts?

Water Quality

There are a number of factors that impact on the water quality of the Swan River, some of which are man-made, and some naturally occurring (although possibly helped along by man). Nutrients such as phosphorous, nitrogen and organic carbon enter the river via run off from rainfall through drains and storm water runoff. The most common types are from fertilisers (domestic and from agriculture), grass clippings and leaves, detergents, and sewerage.

Whilst these nutrients are required for plant growth within the river system and help to form part of the river food cycle, as with most things too much can be a bad thing. Algae is a fundamental part of the river system, providing a critical source of nutrition and water filtration, but too much algae results in blooms. When an algal bloom dies and drops to rest on the bottom of the river it gets broken up by bacteria. This process removes oxygen from the water, which is problematic for fish and other animals that rely on this dissolved oxygen. Less oxygen allows for more nutrients to be released from the river sediments, which then helps to feed more algae and so the process continues.

At present, data modelling shows the following releases of nutrients into the river systems per year.

Swan Canning System	
26 Tonnes Phosphorous	251 Tonnes Nitrogen
Avon Catchment	
20 Tonnes Phosphorous	575 Tonnes Nitrogen

Urban Development

Perth is a growing city and whilst most of development is along the coast, the density of dwellings along the river system is also increasing. This can lead to contamination issues during the building phase, and large buildings can be responsible for erosion resulting in foreshore degradation. For example, the WA Government has recently funded the massive Elizabeth Quay project – the main objective being to bring the river back to the city (apparently having it pass by the city is not enough). Part of the foreshore will be removed and replaced with Singapore style boardwalks, restaurants, high rise buildings for residential and commercial use, and other river based infrastructure.

Climate Change

Climate change is already affecting Perth and Western Australia. Rainfall levels over the past few years have not allowed the river to properly flush, resulting in oxygen depletion, contamination, and increased frequency of toxic algal blooms. Larger storms have increased tidal surges and in recent storms lanes of the southern freeway have been closed caused by flooding from the river. The report recently released by the Intergovernmental Panel on Climate Change focuses heavily on sea level rises caused directly by warming oceans and lack of cooling in air temperatures, suggesting these impacts will directly affect the Swan River in the near future.

Dredging

Due to lack of natural flow through the river, there is an increase of silt build-up, especially at the mouth of the system. This requires regular dredging along the river to create a safe passage for boats. However, this dredging can release trapped toxins into the river and has been previously attributed to fish deaths.

Invasive Species

The incidence of invasion of aquatic plants and animals into the Swan River system has increased in recent years, including the Australian Mud Whelk which was introduced about 60 years ago. The Australian Mud Whelk is a large gastropod (snail), with research indicating as many as 3.6 billion (up to 800 snails per m²) across the Swan River System. This creates a hard river bed, facilitating the attachment of algae and other unwanted species which would normally be flushed away.

So what does the future hold for the Swan River?

The short answer is: at the moment, no one knows. The Swan River is an important aspect of Perth life and holds special community significance, particularly to the Noongar people who have used the river for thousands of years as a source of food, water and culture. As I was in the process of researching and writing this, the state government abolished the Swan River Trust and merged it into the newly formed Department of Parks and Wildlife. It is unclear how this department will operate in regards to the river, given budget pressures and recent decisions to withhold funding. The question is whether the government wants to preserve The Swan River as a healthy asset, or simply as a distant view from a high-rise. It is clear that a lot more needs to be done, but without a dedicated body to watch over and care for the river the future is somewhat bleak.

(HERITAGE) FEATURE - NT

Disastrous cyclone remembered - filming the wreck of the *Booya*

Marine lifers Grant and Mike, joined up with National Geographic while they were in Darwin making documentaries for Discovery Channel. The film crew have lately been putting the spotlight on one of Australia's most historic wrecks.



The "Booya", was a neat little auxiliary ketch with sleek lines and a long history of trading around the Australian coast, especially in South Australia and the Bass Strait islands. She was built in Holland around the time of the First World War and it seemed like the builders couldn't

decide if she was to be a sailing ship or a motor vessel. The result was a motor vessel with poor handling characteristics. By 1974 she was well past her prime, but still a much beloved little vessel that traded around the N.T.s mining communities and with East Timor. Her loss was quite tragic and the full circumstances aren't well understood.

She was at anchor in the harbor when cyclone "Tracy" began to arrive and the crew of four decided to ride out the storm at sea. Cyclones are very normal in the tropical north and often don't amount to much more



The Booya's portholes are still all battened down for the storm.

than a sudden gale. "Tracey" was no ordinary cyclone, but a monster with 300km per hour winds. She was about to make landfall right on top of Darwin. The Booya's crew had seen it all before and even invited a friend, a local 24 year old barmaid, Ruth Vincent, out for trip around the harbour.

The "Booya" was last seen heading out to sea, then she disappeared. Then the people of Darwin had their own troubles as the town was ripped apart by massive winds.

All we know from that moment on, is only guesswork. She got out of the harbour mouth, but they soon got into trouble in shrieking winds and massive seas. The "Booya" may have had a flooded engine room and might have broken down. They dropped an anchor which quickly dragged and snagged a submarine cable. The anchor chain soon parted. The ferry "Darwin Princess" was also riding out the storm nearby and may have bravely tried to take the "Booya" in tow. The ferry wreck has several large dents and a fouled prop shaft from a possible failed tow

attempt. It is likely that the effort ended with both disabled vessels lying broadside on to the massive waves. They soon heeled over and sank. No-one survived from either ship, so both vessels were simply posted "missing".

This was a terrible torment for the families who never had any sense of closure. This was only ended more than 30 years later when local divers



followed up on some favourite local fishing spots and found the intact wrecks. A protection zone was declared around the site and it was preserved as a memorial. Then, National Geographic arrived on the scene with a submersible

aboard and offered to take some of the relatives down to the wreck for a final farewell. This emotional encounter was to be filmed as part of the upcoming TV series.



Marine lifers Grant Treloar and Mike Jacques happened to be in the right place at the right time, and were asked to come out. Mal, the very affable and competent cameraman from Hallett Cove S.A. was after some safety support. This jobs sounds romantic, but mainly involved relaxing out of the way on the flybridge while everyone got on with filming and prepping the sub.

Lazing in the sun and heating fine food, someone has to do it! Our only practical contribution consisted of sitting on the wreck for an extended period watching huge clouds of silt being thrown up by the submersible. We kept an eye on Mal while he darted from place to place looking for that perfectly composed shot. Grant had the honour of placing a bouquet on the wreck, on behalf of the affected families. He also paid for his ticket by sticking with the cameraman when they lost sight of the wreck in a huge silt cloud.

The two ladies that bravely came on board to talk about their missing relative were understandably upset (only one of the ladies agreed to visit the wreck in the sub). On one hand it could be said that the circumstances were used to make great TV, but the film crew handled it sensitively, and it seemed to provide the ladies with a real chance to say a final goodbye. Their story was a sage reminder that wrecks aren't just about a fun days diving, or a few adventurous stories in a book, but are often places of tragedy with a real human dimension.

Historians have described the "Booya" as one of the most significant shipwrecks in Australia. It touches not only the families of those who were lost, but is also a memorial to one to Australia's most destructive cyclones, and to the resilience of the people of the tropical north. She is also a serene little underwater garden.



The resultant film will be shown on pay TV soon, and free to air in the next 12 months.

Celebrity News – Miley twerks for Climate Change

commentary by Mike Jacques



OK, just in case you were living under a rock, Miley Cyrus turned up at the VMA awards recently, looking like a cross between a goblin and a stick insect, to perform some "sexy" moves, but there was a higher purpose.

People seem to think it was a cynical way to push gassed kiddies dying in Syria off the front page, in order to sell more music. Not so. In a recent exclusive with "Marine Life", Miley reveals that she was drawing attention

to the impending collapse of the world's ecosystem. "Hey, time is up for being nice about it. You guys just aint gittin' it".

Miley commented on recent IPCC reporting that indicated we only had about 40 years left before really dramatic changes would become obvious to all, but then it will be too late to correct it. That bored us, but we perked up again when she flashed some cleavage. "Although the scientific debate has been conclusively decided, public attention has waned. The number of media reports on climate change has declined after a high in 2009", Miley said. "We were distracted by news feeds about "Big Brother", so she added, "Hey you dumb #\$\$%&ers, even skeptical scientists now think we are frying the #\$\$%*&ing planet, would you rather entrust your future to a crazy right wing radio shock jock...wake up".

The idea for a publicity stunt came to her after she flicked through some media analysis, "a recent survey found that 2.8% of us have had an

intimate moment while using social media, and I thought I'd tap into that previously disengaged part of the audience".

Miley's high energy but low carbon footprint dance, drew attention, giving her the media space she needed for a rare commentary on public policy, "Those a---holes in Australia think they have a mandate to abolish the carbon price, are you #\$\$@%ing kidding me, both mainstream parties only had about 40000 Facebook followers each during the recent election, I've had 300000 Twitter mentions every minute for my policy initiative. You can run, Tony, but you will never have an ass like mine".

According to Miley, "the real truth is we got tired of worrying about it, we didn't decide the policy wasn't working. Since then we have been wasting our time on pointless distractions". Miley has dedicated her subsequent No.1 hit "Wrecking ball", to the way our inertia is allowing us to "get away with being selfish, dumb, disinterested bums, or know-it-all conspiracy theorists, at least until we have finished completely @#\$\$%ing the planet".

Miley gave us the link to the full IPCC report, but we decided to order pizza instead (and complain about the fully compensated carbon pricing impact of 3 cents per pizza).

So now that Australia has decided to wait for someone else to do the work, it looks like the U.S. entertainment industry will lead the way. Cher, 67, is already planning a tour to promote her new album "Closer to the Truth", a musical encore to Al Gore's book "An Inconvenient Truth". To save on carbon, she's now taking a bus to meet her plastic surgeon. Zac Effron has refused to comment on suggestions he will star in the Broadway production "Climate Change: The Musical". It's all just a matter of time from here.

[Disclaimer: This PARODY is purely fictitious and does not relate to any person with a living brain]

Explorers and their early Marine Observations

Nicolas Baudin



Nicolas Thomas Baudin was a commoner by birth who struggled through the turmoil of revolutionary France to end up commanding several ships and specialised in scientific voyages.

Napoleon had ambitions to explore and chart the coastline of the 'unknown southern land'. On 19 October 1800, Baudin and his large group of scientists left Le Havre in two ships, *Le Geographe* and *Le Naturaliste*. It was a popular event and many notables used their influence to overload the voyage with useless

country gentlemen and social climbers. They got on like chalk and cheese with the core of experienced old salts.

Baudin was also unwell and shouldn't have asked to do such a tough mission. He was affable, but made hasty decisions and slowly alienated his officers. His scientific team refused to recognise his authority and actively undermined him [surely not?]. It seemed like a microcosm of France itself, rent by decades of conflict between radical revolutionaries and conservative monarchists.

On the way south they were becalmed in the doldrums and short of rations. The crew began to bicker openly, with Baudin threatening to put the notables off at the next port. Many of the scientists, artists and some officers resigned and left the voyage at Mauritius, leaving Péron as one of his few remaining scientists and Leseur as his chief artist. Resourceful and ruthless, Baudin dealt with a deserting crew by

kidnapping some of the local merchant's slaves as hostages until they rounded up the deserting seamen he needed, but he happily said farewell to many of the whinging scientists. They arrived off Van Diemen's Land on 13 January 1802, the crew afflicted with dysentery after a stay in Indonesia [don't we all know about that]. They were so short of water the crew had been drinking their own urine.

Baudin's ships sailed up the D'Entrecasteaux Channel, Tasmania and into Port Cygnet. Péron found plenty to interest him as the explorers made frequent contact with Aboriginal people.

They surveyed around D'Entrecasteaux Channel for more than a month before sailing north towards Banks Strait. The expedition encountered



extremely bad weather along the eastern coast of Tasmania and Captain Baudin was ill and shut in his cabin. He left the control of the ship to Henri de Freycinet, who got the chance to name a few prominent landmarks after himself.

Baudin's ships separated and he made a rough survey of the coast westward from Wilson's Promontory, and then sailed round the west and south of Van Diemen's Land. His deputy, Captain Hamelin, investigated Port

Dalrymple and Westernport before making for Sydney. When Baudin arrived in Sydney on 20 June only four of his men were fit for service.

Winter was spent at Port Jackson, and then Baudin returned to the southern coast for a more thorough survey. *Le Naturaliste* was sent back to France with its scientific collections, and was replaced by *Le Casuarina* under Captain Freycinet. They then explored the south, west and northwest coasts of 'New Holland', before heading home.

Baudin died on the homeward voyage to France. After so much antagonism between the ship's officers, Peron and Freycinet finally got their revenge. Now responsible for writing an account of the voyage, they ignored and/or undermined Baudin's efforts. His exploits were largely buried and forgotten.

One of the big contributions of this voyage was that it spurred the British on to hurry up the mapping and settlement of Australia, fearful of French designs on the continent. It was also the most comprehensive scientific survey of the continent to date. The collections are still used by scientists today to research rare, or extinct species in their pre-settlement state. See our earlier article on the CSIRO's Handfish taxonomy research for more info on that subject.



Baudin's Naturalist - Francois Peron

Born in August 1775 at Cérilly, in France François Péron was educated at the local school where he showed outstanding ability. He enlisted in the revolutionary army in 1792, was injured and captured and spent the long months of his imprisonment reading accounts of voyages of exploration. After his release he studied medicine for three years, and developed an interest in natural history. In 1800 he joined Baudin's

expedition as zoologist and anthropologist.

On the voyage out he formed a lasting friendship with the young artists Nicolas-Martin Petit, and in particular Charles-Alexandre Lesueur. His revolutionary politics however were the opposite of his captain's royalist sympathies, and the cause of much of the animosity between them.

When the majority of the scientists left the expedition at Mauritius, Péron became the chief scientist and the enormous size of the collections that were taken back to France were largely due to his enthusiasm. His study of marine life was unprecedented, and his work on Aborigines, particularly in Tasmania, formed an invaluable record of a culture that would soon disappear.

However much of his work in these fields remained unpublished, as he was commissioned to write the official history of the expedition. This major work took the rest of his short life, and was uncompleted at the time of his death of tuberculosis in December 1810. The expedition account was completed by Louis de Freycinet.

Peron's account of Maria Island

Marine mammals

There were several species of the cetacean family around Maria Island, each of which appeared to be extremely numerous. When circumnavigating the Island. I had twenty opportunities to observe large herds of porpoise (*Delphinus phocoena*)...Finally, there is one last species of marine mammal whose existence along these coasts is beyond all question the whale. The whole shore at the head of the eastern bay [Reidle Bay] is littered with the remains of these huge cetaceans, and I myself have seen an entire one, half decomposed, near the northern corner of the head of this bay

Birds

Birds were everywhere rather plentiful, but mostly belonged to the same species as those observed in D'Entrecasteaux Channel. Among the shore and water birds, we observed wild duck, teal, a black swan, divers, seagulls, gannets, cormorants and terns.

On the other hand, the sinister cormorant. which delights in the breakers and reefs and smiles at the ocean's fury, would have trouble in finding elsewhere a home more suited to its tastes and habits than this horrible eastern coast of which I have spoken so often. The rocks everywhere are covered with the dismal legions of this bird; and their plaintive, lugubrious cry, mingled with the din of the waves crashing about them undoubtedly does much to increase the horror inspired by those very breakers.

Crabs and crays

... a small number of fishermen, just using lines, and In a few hours, caught so great a quantity of lobsters (*Cancer gammarus*, Lin) and crayfish (*e homarus*, Lin), that it was possible to distribute them generally throughout the entire crew.

Halliotls gigantea [abalone]

As far as the way in which the natives prepare this shellfish for eating is concerned, it is as simple as it is quick. Over a wide bed of live coals, they spread out as many abalones as are needed either for the family or for a single person. They leave them there long enough to reach the required degree of baking and then remove them. At that moment the animals separate easily from their tests. The natives eat them like that without any kind of seasoning. Having served as plates throughout the meal, the shells (themselves half-burnt by the fire) are then thrown away. Mr Freycinet and I had the pleasure of being present together at

a meal of this kind beside the hut of young Oure-Oure's family, at the head of Port Cygnet.

With regard to the nature of this kind of food. It is not only succulent and wholesome, but agreeable and even delicate as well. In fact all the deepest lying part of the animal, far from being tough and leathery, offers a soft white and very parenchymatous [tissuey] flesh.

Giant Kelp

With regard to its enormous quantity, it would be difficult for me to give a more singular proof of than the following fact. We were moving along near the east-north-east point at a speed of almost three knots. Suddenly, we chanced to come upon a swathe of fucus which so completely halted our boat, that not only was it Impossible to continue in the direction that our observations made necessary, but we also had great trouble in extricating ourselves from this far-reaching bank of weed.



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