MARINE Life

Dec/January 2011-12

Issue 16

A FISHY magazine with teeth

Whales, Exhibitions, Marine Photography, Local News, Killer Sharks, Critter Files, Maritime History and MORE!

Marine Life magazine

Our Goal

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

The Editorial Staff

Emma Flukes, Co-editor, Ban PhD slavery - 'I've been to the mountain top and I can see the promised land'

Michael Jacques, Co-Editor, The Mad Hatter – 'We used to be much more..."muchier." We've lost some of our muchness'

Geoff Rollins, Undergraduate Man 'It's life Jim, but not as we know it'

Phil White – The Barry White of the Mersey, 'gonna fill their hearts with smooth smooth luvin, oooh yeah'

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

We make no promise that any of this will make sense.
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Cover Photo ; Giant Cuttlefish ; Emma Flukes

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NEWS

Whales, Whales and More Whales

Sighting Reports

Recent sightings of whales show that whale numbers appear to be on the mend, decades after commercial hunting ended in Australia in the mid 1970s. Australian Antarctic Division whale biologist Nick Gales said whale populations were rebounding at 5 to 6 per cent a year. Some of the southern right whales will stay to give birth and can be spotted throughout the May to August whale migration season before they return south for the Antarctic summer.

In October a Southern Right Whale made the news after being photographed mid-way between Beauty Point's Inspection Head Wharf and the Bell Bay Wharf. In November a mother and its calf played about 1 1/2 kilometres off Green Beach before slowly making their way past the mouth of the Tamar and into waters off the coast of Low Head. The sightings come at the same time as reports of a leopard seal at Low Head were made.

In August, a southern right whale gave birth in the River Derwent off Taroona**,** which was believed to be the first recorded birth in the Derwent since 1820. The whale and calf was later scared off by a well-meaning but stupid onlooker that tried to swim out to the whale. In September, a rare white southern right whale was spotted off Lauderdale. There have been sightings in Great Oyster Bay, Tasman Peninsula, Recherche Bay, D'Entrecasteaux Channel and Fredrick Henry Bay.

Tamar River whale sightings were slightly more than the Derwent and Huon, with roughly four to six a year, despite high vessel traffic. Big open rivers are calm spots for the whales to rest during their migration.

Whale deaths

Marine experts have raised concern about the number of humpback whales found dead on Tasmanian shores in recent weeks. A 10-metre humpback whale washed ashore at Hope Beach in Tasmania's south earlier this week. The same juvenile whale beached on rocks nearly two weeks ago, but managed to free itself.

Marine Biologist Kris Carlyone said it was the third whale found dead on or near Tasmania's coastline in the past three weeks. The cause of death in the latest beaching would never be known. Mike Jacques visited the site and noticed a dead seal also beached in the same place. Concerning, but it could be natural processes and merely coincidental.

Twenty-four Sperm whales also stranded on Tasmania's Ocean Beach near Strahan and all but two died after strenuous local rescue efforts. NPWS said the whales will now be left to decompose naturally.

Seaweed – The canary in the coal mine

Now new research has found that seaweed is retreating to the brink of the Australian continent where further retreat is impossible and up to 25 per cent of species only found in Australia, could become extinct. The researchers interrogated a database of more than 20,000 herbarium records of macroalgae collected in Australia since the 1940s. They documented changes in communities and geographical distribution limits in both the Indian and Pacific Oceans, it was consistent with rapid warming over the past five decades. The research was carried out by a number of institutions, including the University of Adelaide's Environment Institute.
http://www.sciencedirect.com/science/article/pii/S096098221101030X

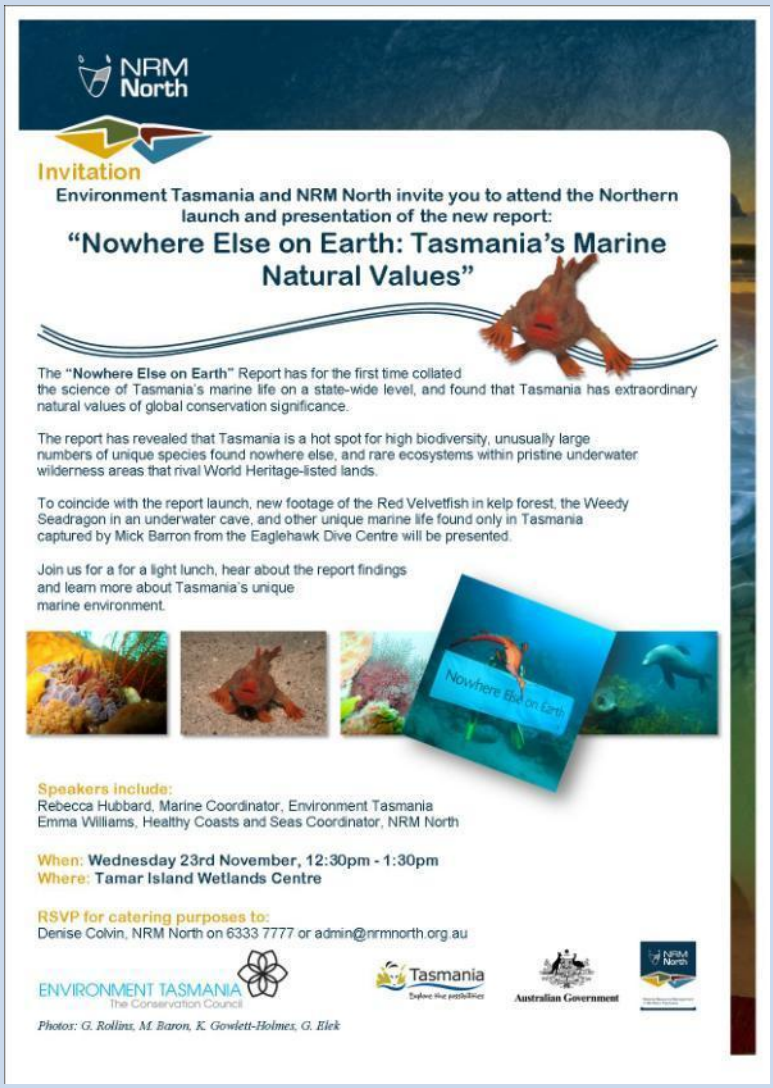
New report: Nowhere Else on Earth

A new report titled "Nowhere Else on Earth: Tasmania's Marine Natural Values" has found that Tasmania has extraordinary natural values of global conservation significance. "Our State is a hot spot for high biodiversity, unusually large numbers of unique species found nowhere else, and rare ecosystems within pristine underwater wilderness areas that rival World Heritage-listed lands," said Dr Karen Parsons, author of the report.

Sea Dragons and Hand Fish, Dolphins and Whales, kelp forest and sea caves, all provide this incredibly beautiful and rare experience for people," said Mick Baron, owner of Eaglehawk Dive Centre, and professional diver of over thirty years.

This report reveals that around ninety per cent of Tasmania's marine life is limited to our region and found nowhere else on earth, yet just one per cent of our marine environment is protected compared to forty per cent of our land.

"To ensure that our grandchildren can experience these magnificent natural wonders, and that future businesses can be built on these unique qualities, the Government must establish a state-wide network of Marine National Parks as a matter of priority," said Rebecca Hubbard, Marine Coordinator, Environment Tasmania.



Seal Exclusion Device for Fish Factory Vessels

Seals are often chase fish into trawl nets and some drown. On a factory vessel seals are protected during net laying because the mouth of the trawl is tied shut by light twine, when the vessel applies power the trawl opens, this twine breaks and the net is open only when its too deep for seals. During hauling a seal exclusion device (or SED) allows seals to escape before they reach the end of the trawl. Sometimes the SED clogs with fish and does not work as well as it should. A special SED for factory vessels has recently been developed that is activated by remote radio signal. In this way the trawl is not fishing when the SED is deployed and does not clog with fish.

Shellfish Alert

There is a current public health alert on eating abalone in the Huon Estuary, D'Entrecasteaux Channel and south of Bruny Island. Do not harvest or eat wild abalone from these areas until you have read the public health alert.

Flare sightings – search suspended

Tasmania Police has suspended the search relating to the activation of three parachute flares at the southern end of Hunter Island last November. An exhaustive and extensive air and sea search involving Tasmania Police Marine Division, Westpac Rescue Police Helicopter and a fixed wing aircraft provided by AUSSAR to locate the origin of the flares have been unsuccessful. At this stage there have been no reports of overdue vessels, nor has anyone come forward with information regarding the flare activation.

Police would still request anyone with knowledge of the flare activations or any vessels in that area to contact police on 131 444 or Crime Stoppers on 1800 333 000.

COASTCARE WEEK Lecture

'Coastal Conversations 2011' - Tuesday 6th December, Dechaineux lecture theatre, UTAS School of Art, Hunter Street, Hobart

This event has been organised to recognise the progress and successes of our Coastcare groups, coastal stakeholders and researchers during 2011, as well as share information from leading coastal experts.

4.30 to 6.30pm - Coastcare week celebration for volunteers and coastal stakeholders
To recognise the many collaborative contributions to coastal resource management in 2011, join us for a selection of short regional coast and marine presentations, followed by time to connect with your coastal counterparts and enjoy drinks and nibbles.

6.30 for 7.00pm till 8.30pm - Free Public lecture/Q&A
Hear two of Australia's leading coastal management and climate change experts:

- Professor Bruce Thom: 'Challenges of coastal management – a national perspective'
- Professor Jan McDonald: 'Legal liability for coastal climate change impacts – is the law really a barrier to coastal adaptation?'

Please see attached fliers for full details or visit*:*
http://www.nrmsouth.org.au/events/events_calendar/EventHome
For the full Coastcare Week program of events visit the Southern Coastcare Assoc. Of Tasmania's website: www.scat.org.au

MPA DEBATE

Blood on the Lab Floor – The scientific split over MPAs

by Mike Jacques

Activists from each camp argue that their ideas are 'supported by science'. Yeah, but who's science? There is often division within the scientific community about topical issues, including about MPAs.

Relatively recently the RPDC hearing on the Tasmanian Bruny Bioregion marine protected areas (MPA) proposals led to an open public debate between scientists. Usually scientists evade divisive public debates, but not this time. A split became obvious between the 'biodiversity' camp and the 'pro-fishing' camp within the scientific community. The participants may protest the use of that categorisation, but the practical effect of the public difference of view, was that the public statements were used to support the arguments of one side of the debate or the other.

One noticeable contribution to the 'pro-fishing' side were "Letters to the editor" submitted to the Mercury by Professor Col Buxton from TAFI, getting an immediate contrary response from a number of scientists including many from within his own organisation.

Each of the parties have conducted their own research into the MPA issue from different perspectives, with Prof Buxton & co. emphasising the effect of MPAs on fisheries management and the value of fisheries (and indirectly the environment). The work of the 'biodiversity camp' scientists has a more noticeable central focus on the particular effects on the environment. Does this mean that the banter we hear in the general community about one side being "rednecks" and the other side "greenies" also go on among scientists? Well sort of, and it can get very heated, but the arguments are a bit more refined than that.

From informal discussions with a few people, it seems that the 'pro-fishing' camp feel that MPAs have become a 'flavour of the month, politically correct view', lacking scientific objectivity and sucking up funding and public attention that could be used more constructively elsewhere. There is a firm belief that the current practice of fisheries management has matured to the stage that we can have highly productive fisheries and protect the environment at the same time, but only if managers have unimpeded access to the coast and no-one interferes with the regime they are trying to manage.

On the other hand, the 'biodiversity' camp feels that the pro-fishing group are coloured by standing too close to the interests of the fishing industry, a valued source of research funds and co-operation. The other camp have an unrealistic view of how easy it is to set up the 'perfect' fisheries management regime and there are other competing values that aren't

managed under a regime primarily focussed on maximising fishing returns. MPAs can be an important environmental refuge and may also help science and fisheries stock levels.

Both argue that a one-eyed focus has clouded the thrust and objectivity of the other camp's views.

Interestingly, a recent study has been published in WA which shows that the argument isn't just a Tasmanian 'thing'. The WA report on the fisheries benefits of MPAs, sounded like a carbon copy of the language used by the pro-fishing camp in Tassie. We have also recently seen a similar 'fishing' vs 'biodiversity' division arguably occurring in relation to proposed Tasmanian maximum size limits for crayfish.

The 1999 TAFI/FRDC study on MPAs is an excellent written example of this conflict. IMHO, the pro-fisheries lobby saw the report as a chance to go after the often quoted assertion that the fishing industry benefits from "no-take" MPAs. Environmental activists often talk about fishing 'spillover' to surrounding areas as being a benefit to fishermen.

I suspect that at the same time the 'biodiversity camp' wanted public recognition of the conservation value of MPAs and a public statement that TAFI was not anti-MPA and was open for business as a group willing to do objective research into the MPA question.

The battle ended with a slightly long and confusing report that tried to provide a species of compromise.

The title itself seems awkwardly slanted, 'The effectiveness of MPAs as a fisheries management tool' [my emphasis]. I would personally characterise MPAs as a 'natural refuge from fisheries', rather than a "management tool" within the rigid meaning of that term. I think the original premise of the study was odd from the outset.

Despite the long round about nature of the report and its seemingly anti-MPA conclusions, there were some wins for the pro-MPA lobby in the form of some surprising admissions.

[MJ's headings]

Agreement that fishing can do harm and MPAs can help

A surprising admission was that fishing has had "a substantial influence on the demographic structure of many species, particularly those targeted by fishers."

"Clearly the survey showed that MPAs, even of a relatively small size (Maria Island covers 7km of coastline), could effectively achieve conservation objectives, especially for exploited species that were resident or sedentary in nature". *[MJ's emphasis]*

Closed areas aren't always a bad idea?
"The trumpeter results suggested that if an immature fishery was to be sustainable for this species, greater use of closed "nursery" areas might be the only option for future management."

"For reef fishes in general, the overall impacts (with the exception of bastard trumpeter), appear to be slight in remote locations but quite substantial near population centres."

In parks, the marine life changes a lot
"Changes within the more remote Maria Island reserve (the largest area studied), relative to fished reference sites, included increases in the abundance of lobsters and certain fish species and increases in the mean size of rock lobsters (responses typical of protected areas studied elsewhere in the world), as well as a decrease in the abundance of prey species such as urchins and abalone.

Low lobster numbers outside parks is a bit of a worry
"The observation that lobsters were implicated in the control of grazer abundance (including both urchins and abalone), coupled with the extent that lobster stocks had declined from natural levels in eastern Tasmanian waters, had perhaps the greatest overall management implication for the long-term."

In parks, crays and other predators thrive and attack pests
"The population structure of lobsters (*J. edwardsii*) within the Maria Island reserve after a decade of protection was substantially changed from levels prior to protection."

"At Maria Island there was also a 30% decline in the abundance of common urchins within the reserve, which may be the first Tasmanian evidence of cascading ecosystem effects related to protection from fishing."

MPAs can be useful for research
"The recovery of the lobster population in the Maria Island provided a reference against which the effects of fishing on a range of population biological characteristics could be examined. These included movement, growth and maturity.

In the absence of historical baseline data, the use of MPAs as scientific reference areas may play a vital role in assessing the magnitude of ecosystem effects of fishing at a local and regional scale and developing an understanding of their underlying causes."

Is good fisheries management alone, good enough to save the environment?

"The ubiquity of indirect secondary interactions between species in marine ecosystems probably results in only a small proportion of species being adequately conserved under directed fisheries management (eg. quota management) [my emphasis].

"There is now a substantial international literature documenting the ecosystem effects of fishing and how these effects are mediated through the loss of top-down control of community structure in a trophic cascade"

[ie, more gets changed than just the crays and abs that everyone is directly focussing their research on. Targeted species predate on other animals and when they are removed the whole ecosystem changes].

THEN CAME THE COUNTER-ATTACK,

Fishermen get little 'spillover' from parks

"A study of small-scale movement patterns of fishes showed that with few exceptions fish species showed high fidelity to site. Animals were generally resighted <100 m from initial tagging site and with individuals remaining near the tagging site throughout the 1-year duration of study. The sedentary nature of these small- to medium-sized reef fish species indicated that relatively small marine protected areas (≈1 km diameter) could provide adequate protection to these fishes but suggest limited "spillover" benefits to fisheries in the form of emigrants to surrounding areas."

You could use just MPAs to manage fishing but it would be very bad

"The simple model predicted population increases in both biomass and size-structure for the reserve and could be used to support the claim that, under certain constraints, a fishery managed solely through the agency of MPAs could provide a similar yield to one managed through more traditional means. However, for many species with limited larval dispersal rates the use of MPAs alone would lead to areas of relatively high quality marine environment literally surrounded by a sea of overfished and depleted areas."

The big concern is 'displaced effort'

The ...[study]... highlighted a major concern when displaced effort was focused on a few of the more productive blocks. This led to these areas becoming depleted, serial displacement of catch and ultimately rapid fishery decline".

"Introducing an MPA without reducing catch was likely to have negative effects upon most fisheries where adult movement was limited in extent, leading to reductions in total stock size and egg production. The effects would be least in lightly depleted stocks where total biomass was high relative to an unfished state".

"The impact of introducing an MPA would depend on the biology of the species concerned and the state of depletion of the stock. If the stock was already in a highly depleted state, an MPA could hasten fishery collapse. On the other hand, if a stock had already collapsed then a reserve could provide some benefit in terms of protecting mature biomass and egg production."

"It appeared that it would be better to improve current management controls, in particular the match between size limits and the growth characteristics, rather than introduce large MPAs to improve the fishery. In the Tasmanian lobster and abalone fisheries where catch and effort are effectively limited, it was concluded that the introduction of MPAs as a fisheries management tool would be inferior to present management options. Indeed, if introduced without reducing catch or effort by amounts equivalent to that in the prospective closed area, closed areas were a risky strategy that could lead to a degradation of the fishery (this appears to be a general conclusion for species with low movement rates)."

Ok, despite displaced effort concerns maybe MPAs work in some circumstances

"This is not to suggest that MPAs do not have a place in marine and coastal management."

We hate the idea but we will take your money to study it again

"Despite the large number of MPAs declared over the past two decades, there is little quantitative information in Australia or elsewhere in the world that rigorously examines whether other management aims are achieved."

COMMENTARY

The 'displaced effort' counter-argument was pushed very hard and I have heard people quote this report as being evidence against MPAs, but look at ALL of the conclusions again. It was admitted in the report that,

- Spatial management of fisheries has a long tradition (eg spawning grounds) and there are a number of fisheries that benefit from spatial closures." "Protection of spawner biomass in MPAs is now a well established fact"
- they are useful where other forms of fisheries management are unavailable or poorly applied.
- this study clearly demonstrates the value of MPAs as reference areas for research on the biology of exploited species and in understanding the ecosystem effects of fishing.
- Fisheries benefits associated with area protection include the suggestion that yield may be enhanced because the MPA will act as a propagation area and/or as a source of surplus fishable biomass migrating from the reserve. [excuse me, didn't you just bag that idea]
- insurance against stock collapse,
- protection of stock genetic diversity
- simplified enforcement

You get polarised views if you actually ask individuals involved in the report, but overall the written report did achieve the aim of providing a sort of schizophrenic consensus about MPAs. There ARE lots of good reasons why conservationists or marine biologists would love MPAs as an idea for preserving the natural values of an area.

For fisheries managers there is a huge problem with the 'displaced effort' when you declare MPAs. Basically closing areas means fishermen go to nearby areas and fish them out even quicker, then they move further along the coast and do the same. Theoretically it can have a 'domino effect' and cause widespread fisheries collapse.

Both sides were forced to admit that everything is not rosy in the marine environment and the huge changes inside the new MPAs have proved just how much fishing might have beaten down the 'natural' population levels on our reefs. Everyone worries about low cray numbers and slanted fishing effort, especially near cities. Invasive species and climate change effects keep both camps awake at night.

IMHO, displaced effort scares are relevant, but they are being overused as a scare tactic to naysay any policy that is at odds with the current fisheries management philosophy.

In the absence of almost any effective MPAs, cray stock decline has been happening for ages. We have done precious little to respond to it, and what we did do was a bit too late and a bit too timid. Is that 'a poorly applied fisheries regime' which needs MPAs? I'll let you draw your own conclusions.

If MPAs are fundamentally a bad idea, then let's get rid of our land-based national parks too and rely totally on a good management system based around sustainable exploitation. To follow the 'science' of the pro-fishing lobby to its natural conclusion, perhaps Forestry Tasmania and the hunting lobby can better manage the environmental values of these land-based national parks.

This report is occasionally cited as scientific proof that Tassie MPAs are a stinker of an idea. Individuals might say that, but the report doesn't actually say that. "No take" areas as an idea, rather than all types of MPAs per se, might have trouble managing the issue of displaced fishing effort depending on the location and surrounding circumstances. The report is also sceptical about 'spillover' benefits. That's not exactly a resounding "No". What is more interesting considering the background of the people involved, is the extent to which the report concedes that in many circumstances MPAs WILL WORK as a conservation tool.

For my money the policy issue is still alive. How do Tasmanians want to manage their coastline, for fishing alone, or as one consideration among a number of possible uses and values? You know where I stand.

Horseshoe Reef [and everything you ever wanted to know about it]

by Mike Jacques, Greg Close and Phil White

Horseshoe Reef is a shallow and extensive reef about 3 miles to the east of Devonport and 800 m off the coast north of the Devonport Airport. The major 'dry' islands are Wright Island and Egg Island. They make up 10 ha of land at low water. Egg Island is a 300 x 200M flat-topped shingle bank about 3 m above high water. Wright Island is a rocky ridge 1 m above high water.

History

The first visitors would have been Aboriginal people, easily able to make that distance in a stringy bark canoe to look for bird's eggs.

By 1838, the first little boat had made it into the Mersey over the sandbar and a sprinkling of settlers arrived. Wright's Island is named after William Francis Wright, the Port Sorell police magistrate who owned the land on the adjoining coast in the 1840s. His office gave him the use of a government whaleboat, and according to one disgruntled correspondent, he probably used it to go fishing with his constables on the reef. The earliest reference to the name Horseshoe Reef is in a government notice of 1854. It's hard to see why, the reef is hardly Horseshoe shaped to my reckoning.

The reef's oldest role is as a seabird refuge. Totally cut off from land-based predators it was a safe roosting and breeding site for many species of seabird, although their fortunes have waxed and waned since. The islands are near a city and an airport and the nesting sites are no longer as safe as they once were. A shingly beach on the landward side gives safe boat access in moderate weather to the helpful and destructive alike.

In 1877, the local pastor paddled out to one of the smaller islands (Wright's?) in his canoe and camped, *"... some hundreds of sea-birds had settled for the night; among them two large pelicans stood up, as leaders of the flock. These birds seemed to have their sentries which wheeled round the canoe with harsh cries of warning; but it was not until I was within a few yards of the point that the feathered tribe took to the water, and were very much offended, I have no doubt, at being disturbed at such unreasonable hours".*

In 1888, William Wells also landed on Wright Island (probably actually Egg Island) to go camping with his sons. There were no pelicans this time, but he saw Cormorants, Sooty Oystercatchers and Sanderlings. The birds dive bombed him and he shot an Oystercatcher and

one sandpiper. He also tried collecting eggs without success. The family returned for an outing in 1893 and the kids stole penguin eggs, while Wells shot and wounded another Oystercatcher. The Wells family were considered nature-lovers for their time!

In the 1930s it was carpeted in Silver Gull nest sites, perhaps spurred on by the rubbish from the growing city of Devonport. Occasionally anglers would also see seals hauled out on the islands. The Devonport Field Naturalists Club wanted to make it a bird sanctuary but nothing happened, as the locals were hell bent on shooting every cormorant they could find, to try and promote local fish stocks. In the early 1930s the local volunteer artillery were using Wrights Island for target practice. A year after it had been made a reserve in 1941, someone wanted it rescinded so they could mine it for guano, even though there wasn't any guano there. By 1946 it was covered in nesting Crested Terns, but they dwindled in numbers down to one or two by 1970 and they are now rare.

A very small colony of little penguins is still there (only 3 pairs in 2000), but a visitor usually only sees Silver Gulls, the odd Pacific Gull and Cormorants. The reef is across the flightline from Devonport airport and a bird control program of poisoning 20 years ago has severely thinned gull numbers from around 2000 pairs in 1966.

The Black-Faced Cormorants are doing well with over 500 pairs in three distinct colonies on the rocky northern shore.

At some stage people may have lived, or at least regularly camped on the island, as there was an old hut on the southern side of Wright Island for many years. In 1900 it was proposed as a quarantine station during a bogus black plague scare. In the 1930s it was proposed as a tourist attraction and someone wanted to plant trees and erect a facility. Again, nothing came of it.

Fishing

In the early days the reef was well-known for sharks and during his visits, Wells would only bathe in the shallows. He notes that on the same trip he lost all his hooks to a shark when he went fishing. In reality it probably wasn't a man-eater size, although the area offshore is renowned for big Makos Sharks when the Australian Salmon are running. The area has always been a popular angling spot and the flathead are getting small as a result. Squid fishing in the adjacent seagrass beds is still popular in season.

Shipwrecks

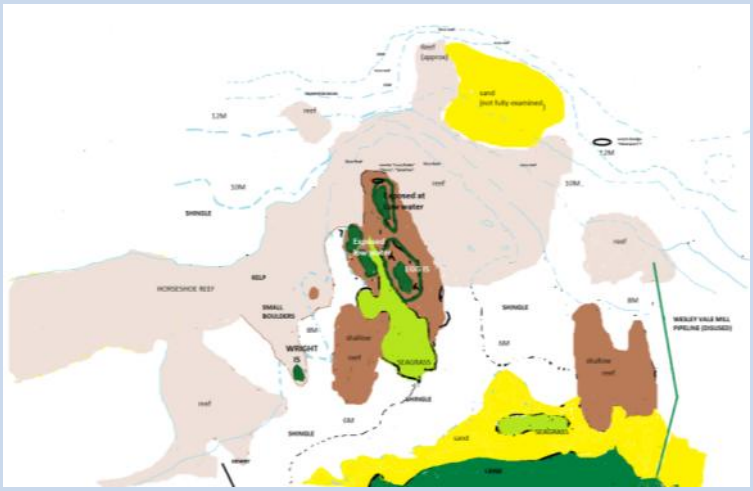
The reef has often been cursed by mariners as it sits astride the approaches to the Mersey Heads.

The reef has seen at least one fatal shipwreck. In August, 1876, the schooner Satellite, was lost with all hands. The small cutter "William" was also lost, but all survived. The tiny steamer "Percy" ran aground in fog during the 1870s and the "Lucy Drake" and "Pauline" followed soon after. These losses eventually led to the erection of a light on Mersey Bluff. The reef still claims the odd inattentive yachtsman even today.

Visitors have often found pieces of old wreckage on the little islands. Captain W. Taylor found two feet, encased in a pair of new boots, two thigh bones, a shin bone, and three other bones. From their size they were identified as Olaf Wilson, lost on the schooner "Satellite". His remains were buried on the northern end of the island. The same captain saw wreckage in the water from the steamer Percy that had run aground at almost the same spot.

Underwater life

The reef has the best marine life in Devonport, if you can get out to the deeper reefs. It's fairly uninspiring at shallower depths as the swell in frequent westerly storms, rips more delicate life from the bottom. Inshore, the bottom is largely comprised of smallish rocky outcrops with large expanses of kelp. The depth is around 5 metres. The sheltered lee side of Egg Is is mainly shingle with depths of 3 to 5 metres.



Rare nudibranch, *Aust Museum*

Some of the most attractive reefs around Horseshoe are found where the gently sloping shingle bottom drops down from around 5 to 15 M on the seaward side of the main islands. Many spots, including Trumpeter Rocks feature medium sized to large boulders and rocky outcrops. There are numerous gorgonian fans, sponge gardens, invertebrate and pelagic life. There are nearly always lots of seastars, nudibranchs, wrasse, Magpie & Barber Perch, Banded Morwong, Ascidians, Bryzoans, Sponges and Cuttlefish. Due to the close proximity of the Mersey river and associated shipping movements, the area is prone to some silting.

East of Egg Island

Trumpeters Rocks, Phil White

The Wesley Vale paper mill recently closed and dive-hungry Leven Scuba Club members Phil, Annette & Fred were soon out there to check out a potential artificial reef provided by the mill outfall.

They dropped in at 16 metres and headed out to sea. As the diver went deeper the growth on the stanchions got more vigorous. Lots of gorgonians, sea lace, basket stars, schools of whiting, zebra fish, leather jackets, boarfish, cowfish, magpie perch, morwong, rosy perch and ling were met along the way. They didn't quite get to the end of the pipe but came close in around the 18 metre mark where the bottom was pretty bare.

Divers searching for the "Davenport" wreck (see earlier issue of Marine Life) have also found a few nice little patches of bottom with good fish life and invertebrate growth to the east of Egg Island. During these searches the divers found a number of Blue Bottles (Portugese Men of War) on the surface. In one strip, which was over a kilometer long and 100 or so metres wide, they were so thick there was less than a metre between them.

Close Encounters with Horseshoe Reef

Local nudibranch enthusiast Greg Close has been diving the reef for years and is something of the local expert although he won't admit it. In the 1970s and 1980s everyone, including Greg, was cray obsessed. He went out with a friend to survey the reef for cray bottom in the days when there was no GPS, only landmarks and memory. They were on hookah (surface supplied air via a hose) working grid patterns.

"I had a sounder on the boat and I ran in on a southerly heading from sand aligned with structures ashore until we hit reef". The pair dived on the reef and carried the anchor along with them so they didn't get too far away from the boat, as they made their way from deeper

to shallower water. The profile the reef gradually deepened and flattened off to sponge garden interspersed with shingle and groups of larger rocks and then shingle and sand.
"This profile extends East for quite some distance but to the West and North of Trumpeter Rocks, it got deep pretty quickly. A mate and I spent a heap of time diving and then sketching what we thought it represented into log books when we got back".

To Greg the diving was all pretty matter of fact except one day when, *"a Great White was dragged in from Horseshoe tangled in a net a day after I was diving there".*

The risks of such long dives were more the threat of decompression sickness, followed by the threat of diver's bone disease in later life. Bone disease is caused by the tiny nitrogen bubbles that have been trapped in blood vessels near the joints after long dives. Back then the state of medical knowledge was much less developed and people tended to overdo the dive times. *"The tables we used were pretty rubbery I've got to say, and this was done over quite a few summers... and yes my joints are about b******d!"*

Greg then started noticing things other than crays. *"I stopped cray diving over 25 years ago. There are more interesting things down there".* Greg was particularly fascinated with nudibranchs, and in the 1980s he sent specimens to the Australian Museum,

"The nudibranchs would come and go over some seasons and some are not seen for a number of years, then they are back in abundance again. I suspect this is more to do with 'spore' being carried by the currents than anything else. On the NW coast we get most nudi species common in South Australia and Victoria at various times".
Eventually Greg was rewarded for his efforts by having a newly discovered species, *Noumea Closeii,* named after him.

Greg was also running into lots of other rare and interesting marine life. *"I've seen both Warty Prowfish and Red Velvetfish on Horseshoe and Tasselled Anglers are reasonable common too although not easy to find. I've not spent much time over the seagrass and don't recall any squid of any quantity there. Pipefish and other tiny juveniles there a plenty though".*

Now the reef gets a hammering from increasing numbers of recreational fishermen and its marine life has suffered. The crays in particular have almost completely disappeared.
"I still like to dive there of course and take a few pics and I'll attach a few"

Greg's Horseshoe Adventures in colour

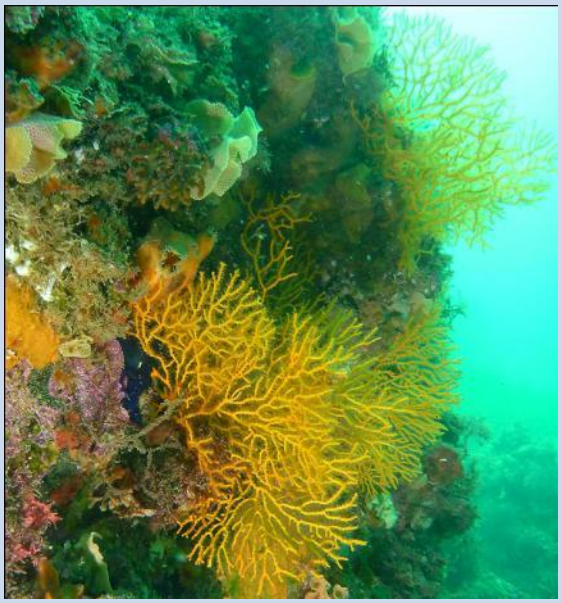
Warty Prowfish

I Encountered Kingfish at Horseshoe on two occasions. First time was back in the early 1980s with a buddy who thought they were Tuna. They circled us a few times then disappeared. The most recent was a couple of summers ago when the fish came up to meet us on the way down the anchor rope and stayed with us for much of the dive. Terrific.

Horseshoe Leatherjackets are always seen on Horshoe Reef. It would almost be understandable if their presence was the reason the reef was named. I've hand fed them on almost every dive there over a long period and found them most friendly and easy to work with. However on introducing Phil to Horshoe Reef, he was attacked by them for what reason I don't know. (Perhaps they wanted a feed from him too!)

Basket stars are prolific on Horseshoe due to the steady currents and nutrient rich water. They share space with the Gorgonian fans and are a favourite with photographers.

Maggie (Magpie Perch): The most common Morwong species on the North West coast. Easy to approach quite friendly and often seen in pairs.



Yellows: Gorgonian corals decorate the reef between 12 and 20 metres depth. They are found in red, orange, yellow, white, pink and brown and various shades of all of those colours.

Fish Bowl: Horseshoe is quite a large reef structure with areas of relatively barren bottom, mixed with larger rock and 'bommie' clusters. It's around these larger rocks the greatest fish populations are found. Wrasse of many descriptions, Zebrafish, perch, Leatherjackets are just a few of the many species on the reef.

Tucking in: This Nudibranch, Chromodoris tasmaniensis, is feeding on a species of sponge known as rosea. Nudis are normally sighted on every dive and are delightful to find, and identify.

The Salem Shark Trials

Hunting the Great White Maneaters

by Emma

Hello readers! I had high hopes for this article to be an astute, well-constructed and informative account of the recent spate of shark attacks in Western Australia and the issues it has raised about potential shark culling. Unfortunately, as usual, procrastination and the real world raised its ugly head. So instead you're stuck with a disjointed rant about why I hate humans in general and their irrational fear of what are some really pretty innocuous animals.

DISCLAIMER: all the information below is true and appropriately researched (even if I'm too lazy to quote sources for all of it), but my feet are definitely firmly planted in the pro-shark camp. No apologies for the complete lack of objectivity. :)

So… sharks eh?. They're angry, toothy, finely-tuned killing machines hellbent on savaging the entire human race. They thrive off maiming and torturing the weak and vulnerable, particularly women and young children. They'd probably steal your silverware and slash your tyres too if only they had opposable thumbs. Yeah ok, it sounds pretty ridiculous, right? But judging from the sudden and violent public reaction spewing forth after the recent outbreak of shark attacks in WA, this view of sharks as the Embodiment of All Evil may not be not so far from the truth…

But ok, let's backtrack a little.

Sharks are big fish. They live in the sea. Why are they even important?

Sharks are predators. They like to eat living animals. So do kittens, weasels, ladybirds and jellyfish. The difference is, sharks have big teeth, can fit large bits of human in their mouths, and are '*apex'* predators at the pinnacle of their ecosystem. Animals tagged with this title of 'apex predator' play a critical structuring role in food webs, and are often vital to maintaining the health of ecosystems. A recent study published in *Science* found that "*the loss of apex consumers is arguably humankind's most pervasive influence on the natural world*". Removal of these big guys from any ecosystem can trigger a barrage of catastrophic events that cascade down the trophic chain. So, basically, sharks are kind of a big deal.

Voracious predator

What's with the big fuss about sharks recently?

You might have been living in a badger's den for the last 3 months and have no idea what the big deal is on sharks of late. [incidentally, if you have been hanging out in badger's den, you should really check out this incident…] But I digress. Long story short: there has been a shark (or several sharks) in WA using a few people as chewtoys recently.

- September 4th, 2011 - 21 year-old male bodyboarder mauled off Cape Naturaliste, victim succumbed to injuries in minutes. 4.5m great white witnessed
- October 10th 2011 - 64 year-old male swimmer disappears off Cottesloe Beach, swimming trunks recovered, shark suspected
- October 22nd 2011 - 32 year-old male diving alone off Rottnest Island floats to the surface with fatal shark attack injuries, 3m great white witnessed nearby

Following the third fatality, the WA Government made the very public decision to authorise the destruction of the so-called 'rogue individual' responsible for the killing(s). Fishery authorities established bait lines in waters off Rottnest Island because of the perceived threat to public safety. But just 24 hours after the attack, the baits were removed because of concerns that more sharks would be attracted to the area. Sharks being attracted to bait? Gee, you don't say…

But enough snide remarks from me. I wanted to try and dig up both sides of the public view with regards to this issue *[yay for feigned objectivity!].* I did trawl around the internet pretty heavily, but surprisingly the public support *against* this temporary kill order was overwhelming (at least, in the social networking and internet news circles I roll in). Here's a selection of public comments that seemed to represent some popular views...

"Maybe if humans stopped eating sharks food, sharks would stop eating humans."

"It's their ocean. We're just visitors. They're just doing what is natural."

"If someone went out bushwalking and got bitten by a snake would be calling for a cull of all snakes? No, because that would be stupid - just like this is."

"Sharks eat anything. Cool. Let's feed them all our nuclear waste."

"The day an ocean going creature walks onto land and latches onto a human then I'll condone chasing it down and killing it. Until then, just understand that as intelligent (questionable) a life-form as humans are in this world, we are by no means as physically dominant. That is something we have to learn to get used to."

"It is not the shark's fault that humans go into their backyard and dangle around looking all delicious."

"Go ahead and put the welfare of these maneaters before the welfare of humans. I hope it is not your wife, child, parent or loved one who will next be killed by these loathsome creatures. This is our environment too…clearly there is a big problem here and action needs to be taken immediately. There are obviously too many man-eaters roaming our waters, killing innocent members from our community - something has to be done to stop it, the numbers of sharks clearly are at dangerous proportions and need to be culled."

"I don't think we should kill the shark, but we do need to set an example for other sharks, so assuming this shark is found guilty I think a 6-8 year prison sentence in a maximum security penitentiary should be sufficient."

"For God's sake, is the 3rd death in 7 weeks just in WA. Clearly the sharks are out there in greater numbers than ever. Culling the sharks coasting near the shore (maybe 10 or 12 max during spring/summer seasons) won't do anything to their ranks, and WILL save lives like the last 3 men attacked in the last 7 weeks or at least reduce the risks greatly of been attacked and of being an embarrassment to the global media."

"I am an idiot behind a keyboard quoting figures that I constructed in my head to support an argument driven solely by fear and media hyperbole."

Ok, maybe I made that last one up. Idiocy makes me rage. But to try and balance it out a little more objectively, I went ahead and constructed a short list of reasons for and against the shark culling program that has been proposed to protect our soft little human bodies.

Reasons FOR nuking sharks	**Reasons AGAINST nuking sharks**
1) Sharks can and do eat people	Sharks (great whites) are protected by Commonwealth law and listed internationally as Vulnerable
2) WA sharks are plaguing in numbers	Removal of sharks from an ecosystem may have catastrophic cascading trophic impacts.
3) Shark attacks are on the rise	Sharks were there >400 million years before humans. They're just hungry.

Uh oh, a balanced list… But before we go down the 'LET'S KILL THEM ALL!!!!' track, I do feel like it's my responsibility as a pseudo-science-environmentally-aware-anti-idiocy type to clear up some common misconceptions. So here we go:

1) Yes! Sharks DO eat people!
2) No. There is no robust evidence to support plaguing shark numbers.
3) No. Just… no. To quote Shaun Collin, WA Premiers Research Fellow (i.e. the guy we pay to know about this sort of thing) "*There is no data to suggest that shark numbers are increasing off WA's coastline and shark attacks in Australia have remained relatively constant over time, occurring at a rate of approximately one per year for the last 50 years.*"

This final point in particular really gets my back up, as the devoted readers amongst you may have gathered from my last sharky Marine Life article back in October 2010. We have very comprehensive National and International Shark Attack Files dedicated solely to documenting shark attacks and shark-related incidences for the very purpose of compiling statistics. And we all like stats, right? So how about some cold, hard facts.

> According to the Australian Shark Attack File, in the 20 years to June 2009 there were 24 shark attack deaths in Australian waters, or 1.2 per year.
>
> Including the 30 years before that, there were 52 deaths from shark attack over 50 years. This equates to 1.04 fatalities per year. During this time, Australia's population has increased from 8.3 million to 22 million (as of 2008) and continues to grow. Recreational and commercial use of Australian waterways is at unprecedented levels. People *WILL* be eaten by sharks, and these numbers *WILL* increase, as **more people** X **greater exposure to waterways** = **increased frequency of shark attacks**. Duh.
>
> But bear with me! By this logic, we should be seeing a corresponding increase in shark attacks as our population continues to increase. This is simply not happening. In fact, the percentage chance of being a shark attack casualty is lower than ever.

WA beach usage is at an all-time high

I couldn't possibly go out without taking one last dig at people who fail to understand statistics, so here goes: 2011 has so far seen five shark attack fatalities. In 2010, there were just two. In 2009, not a single person was killed by sharks in Australian waters. WOW LOOK OUT, a 2.5-fold increase in shark attacks IN LESS THAN ONE YEAR!!! Or a MILLION-FOLD INCREASE SINCE 2009!!! People… this is not how statistics work. It's what we call "failtistics" or "stop and use your common sense-tistics". These figures are tiny. You cannot use them to make robust comparisons. If someone was killed by a hamster tomorrow we wouldn't go destroying the global population of hamsters all because of a million-fold increase in hamster deaths for 2011. This, I promise you. So *until* the day that we have robust stats to indicate a real upwards trends in shark attacks *independent* of increases in population and waterway usage, I see a hell of a lot of reasons to protect sharks and absolutely no justifiable reason for culling them. Even if they did steal your silverware.

Still bothered? Just remember that in order for a shark to attack you, you must first be wet. Be aware of this. **/rant over**

For a much more erudite and objective article, I urge you all to check out this great piece of work that quickly went viral throughout news sites all over the interwebz. Written by Tassie's very own wordsmith, swimmer and diver, John Silberberg.

As a side note, the WA Government has announced last week that it would be investing more than $13.65 million into non-lethal shark mitigation strategies.

The Government has ruled out the following archaic and invasive strategies:

- Major cull of white sharks to reduce numbers
- Seal culling/relocation programs
- Creation of beach pools to mitigate shark attacks
- Drum line programs to reduce shark numbers

Instead, the money will be invested into the following areas:

- $2M for the establishment of a Shark Response Unit to tag and track sharks near popular swimming beaches.
- $2M annually for increased helicopter surveillance patrols and trailing of a text message alert system similar to that used by State Emergency Services.
- $1.7M to fund four research projects that will investigate the effects of overfishing on shark numbers and whether this has led to an increased risk for swimmers.
- Implementation of a community engagement program to provide info about avoiding shark hazards.

Critter Files

Creepy Critter 1: Warty Prowfish (*Aetapcus maculates*)

Aust Museum, photos Bill Boyle

The Warty Prowfish is only found in Australia from northern Tasmania to central Western Australia. It occurs near sponges or algal areas in protected marine waters and in reef crevices. The recorded depth range is about 2m – 25m. The Warty Prowfish can be recognised by its warty skin that is regularly shed like a snake skin. Its base colour can be brown, pink, orange, yellow or pale whitish. It often has dark blotches. The species grows to 22 cm in length. The compressed body shape and camouflage indicates that it is free swimming, but stays near the bottom.

Bill Boyle has posted this excellent photo on the Australian Museum website. Bill commented that the fish was under kelp at the Pope's Eye in Port Phillip Bay Victoria and when uncovered it was startled and swam up about 0.5 m off the reef, stopped in mid water and expelled the white milky cloud. The cloud stayed motionless very like octopus ink (except white) while the fish darted down very fast into the reef. Little is known of the composition of the fluid. It is presumably toxic and is used as a response to threats from predators.

The other oddity about the Warty Prowfish is that it sheds its skin like a snake. In an aquarium, every 22 or 24 days, it will fill up with water like a blister and began to look transparent. After several hours of this it will look like a balloon. It is believed that because these fish live a rather quiet life spending most of their time either buried in the sand or under or against rocks that a film of bacteria and algae builds up on the skin and consequently the only way to rid themselves of such growths is to shed the whole skin regularly.

Warty Prowfish are occasionally caught and discarded as bycatch in rock lobster pots. Warty Prowfish *A. maculatus* is taken under permit in Tasmania for the international aquarium market and a maximum of 3 fish can be taken. The species is occasionally accidentally taken by anglers.

Warty Prowfish populations live along a narrow strip of shallow coastal reef and are susceptible to habitat damage. Warty Prowfish, like other prow-fishes, are sedentary, slow-moving and live in low densities, which can make populations vulnerable to the aquarium trade.

There is very little information known about the biology (including growth, longevity and reproduction), diet, and population dynamics of this species. If dispersal is low, and recruitment of the next generation is localised, then it may be very vulnerable. Why this fish was (at least at one point, although I think the law has since changed) picked as a legal aquarium trade species in Tasmania is a mystery since we know nothing about whether such a fishery is sustainable and the benefits to fishermen would probably be modest due to the limited catch.

Rolli, seasoned diver, photographer extraordinaire and occasional Marine Life contributor [when he stops acting like a student bum] was lucky enough to see and photograph a warty prowfish at Low Head recently.

Rolli: *"What the hell is this? In nearly 200 dives I've never seen one."* – well now you have…

SUPER AWESOME AMAZING prowfish pics by Geoff Rollins

Creepy Critter 2: Tasseled Anglerfish (*Rhycherus filamentosus*)

Tasseled anglerfish with a close up of its skin, Greg Close

The Tasselled Anglerfish is a type of Frogfish and grows to 23 cm in length. It is only found in Australia, living on kelp covered rocky reefs from Bass Strait to South Australia.

This species is brown to red above. There are dark blotches or bars on the sides separated by whitish areas extending up from below. It has a dorsal fin comprising four parts. The first is a long pole with a lure that resembles two worms. The second and third dorsal spines are separate. These are followed by 12 to 13 soft rays. The Tasselled Anglerfish is very similar to the Glover's Anglerfish. They can be separated by the shape of the longer lures in the Tasselled Anglerfish.

The Tasselled Anglerfish is covered with fleshy tentacles which provide it with camouflage in its natural habitat. In addition to numerous filaments and warts, Tasselled anglerfish can change their colour to match their background. The species can be very hard to spot when it remains motionless among sponges and algae.

They will sit motionless waiting for prey. Frogfish eat crabs, other fish, and even each other. When potential prey is spotted, the fish begins to move its lures to mimic the motion of a worm and draw the prey closer. The catch is then sucked in within milliseconds by the sudden opening of the jaws. This enlarges the mouth twelve-fold and creates a powerful vacuum. Frogfish can also expand their stomachs to swallow animals nearly twice their size.

If they move, they do so by “walking” on their pectoral fins. In an emergency they can forcefully expel water from a small opening below the pectoral fins, giving them a short burst of “jet” propulsion.

In Port Phillip Bay they have been seen congregating for breeding in October. It is not known if the spawning is triggered by some factor such as the phase of the moon, or if the male is attracted to a smell or signal released by the female. The larger partner is always the female.

Several courting males gather around the gravid female. Females lay about 5 000 eggs in a large mass of numerous single-egg strings attached to a gel disc of about 30mm in diameter. Each egg has a long double filament that sticks to growth on the surrounding rocks. As the male releases sperm, the female fans the eggs trying to spread it out. Now being useless to the female the male is driven off, and in some Frogfish species even eaten. The female then covers the eggs completely with her side and guards them. The young hatch after about 30 days and settle in crevices at the bottom.

Early Tassie Explorers - their marine observations

John Henry Cox

John Henry Cox was born around 1750, the son of a rich jewellery merchant. In 1781 he was in Canton as a merchant then branched out into the Pacific fur trade, in breach of the trading monopoly held by the powerful East India Company. When they came after him for the breach he thought it wise to skip town.

He ended up in Sweden where he bought the brig "Mercury" and signed on as a pirate in the service of the Swedish king to raid Russia's Pacific colonies. This was just a ruse, under a Swedish flag he wasn't subject to the monopoly rules of the East India Company.

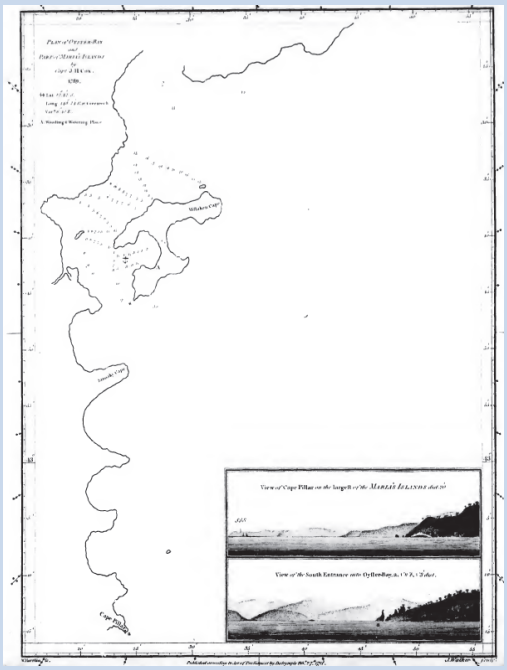
In February 1789, they set sail from London. By July they were seeking the east coast of Tasmania for repair timbers and water,

The brig "Mercury" anchored at the entrance of a deep bay on the south side of Van Diemen's Land, on July 3, 1789. This bay was ten miles from the *Mewstone [Cox's Bight]*. The country was found to be *"agreeably interspersed with hills and valleys, and some of the hills were luxuriantly clothed with trees to their very summits". About four miles from the vessel, there was a stream of fresh water; and close to it stood a hut, or rather hovel, neatly constructed of branches of trees and dried leaves". "Around it were scattered a great quantity of pearl, escalop, oyster, and other shells, which had been lately roasted."*

A heavy swell from the south obliged Mr. Cox to get under way and came to an anchor in Oyster Bay, on the western side of Maria's Island. They met with the natives and made a few observations,

"We found a great number of paroquets in the woods, and a variety of small birds ; some of them of a most beautiful and delicate plumage. There were besides, crows, exactly like those we have in England, and abundance of sea-fowl ; particularly a large white bird, something bigger than a swan, with black tips to its wings, and an enormous-sized beak. Most of these birds were very shy, so that we conjectured they were hunted..."

"We did not procure any fish here with our hooks and lines ; and thought it very extraordinary, that though we saw such a prodigious number of oyster and other shells scattered about in every direction, we could not obtain any with the fish in them : certain it is, that the natives procure them in abundance ; but whether by diving for them, or by what other means, I cannot say."



He charted Maria Island and Marion Bay as they headed back out south. They did not go to Great Oyster Bay as is quoted on some websites.

He went to Tahiti, Hawaii and Alaska. He used his Swedish credentials to evade the East India Company and rather than attacking Russians, he decided to try to buy furs from then instead. He tried the same trick later using the Portuguese and Prussian 'flags of convenience' which allowed him to legally stay in Canton and quickly amass a fortune. He never got to spend it and died suddenly in 1791.

WHAT'S ON in December - January 2011-12

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

Scuba diving clubs online calendars

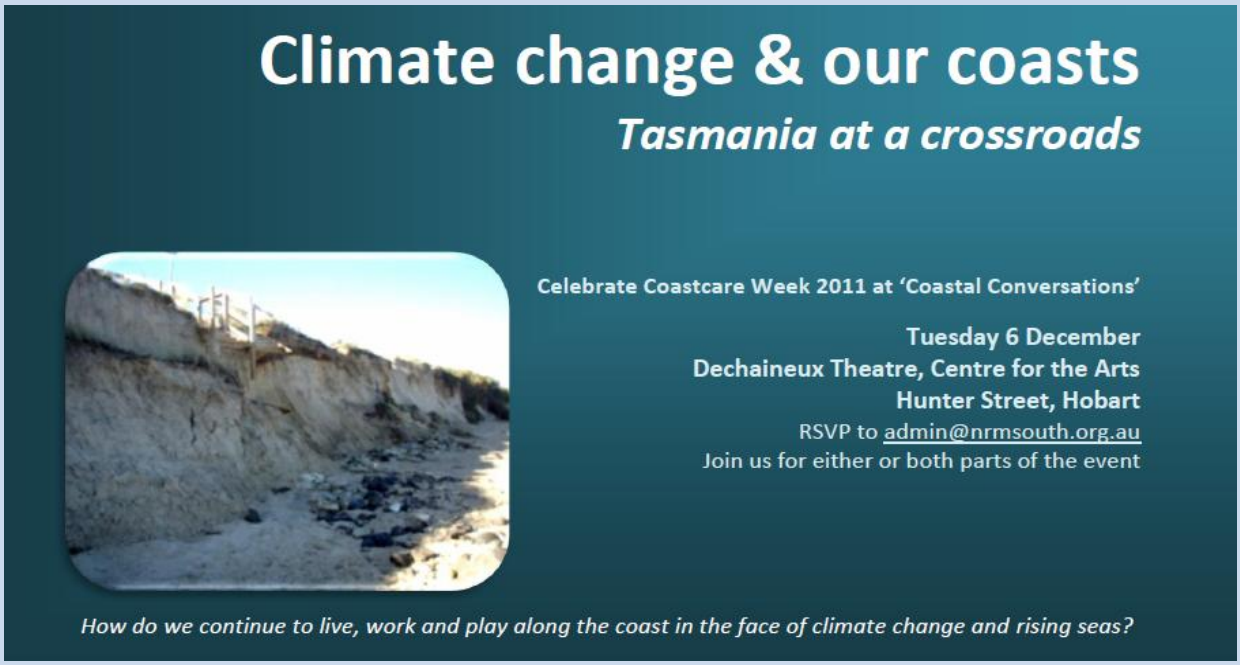
TUDC – http://www.tudc.org.au/diving/dive_calendar.php
TSDC – http://www.tsdc.org.au
Contact us for TSAC, Ocean Plus and Leven upcoming events.

Coastal Walks

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

Sea and Shorebird Sightings

See http://www.eremaea.com/BirdlineRecentSightings.aspx?Birdline=3



We're on Facebook!

As part of a 'where are we all going with this?' discussion, we have decided to 'do' social media. Please go to Facebook and 'like' our "Marine Life Magazine" page. Emma and Geoff are monitoring the page and will post tidbits of info and respond to your requests.

How to make a contribution

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

Back Issues

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

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