

MARINE *Life*

A Magazine of Ocean Fun

April/May 2011

Issue 12

- History of Derwent Forts
 - Live-bearing seastars
 - Photographic portfolio of birds
 - How to avoid seals
 - Fish kills in Derwent
 - Pedra and beyond
 - The elusive velvetfish
- and much 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

Michael Jacques - Editor, drives a mean armchair

Emma Flukes – Sub-editor, rarely in armchair

Geoff Rollins, wet nappy mechanic

Phil White, has been known to be wet rarely, generally at shower times.

Disclaimer: The views expressed in this publication are not necessarily the views of the editorial staff or associates of this publication. We make no promise that any of this will make sense. marinelifetassie@gmail.com

Cover Photo ; Big-bellied seahorse, Kingston Beach, Emma Flukes

Contact Us;
marinelifetassie@gmail.com



News

CSIRO & UTAS news	1
Ocean Planet & REDMAP	3
Underwater cleanups	8
TARFish – MPA report, new seal policy	10
Fish kills in Derwent	13
Gunns Pulp Mill and Bass Strait	16

Critters and Photos

Serious Kids Stuff	6
Portfolio – Alan Fletcher’s birds	20
Threatened live-bearing seastar	30
The elusive velvetfish	38

Science and Conservation News

Baby urchins and abs	14
Seaweed: the stuff you didn’t know	24

Heritage Features

History – Derwent Forts	26
South Coast Islands	31
Abel Tasman	40

Activities

Dive Club Calendars	43
---------------------	----



NEWS

UTAS - Sea Level Rise Research



Extract of ABC News By Selina Bryan

Tasmanian scientists have developed GPS buoys to check the accuracy of satellite sea level measurements. The buoys were deployed for the first time earlier this month about 30 kilometres off Bruny Island in Tasmania's south-east.

Christopher Watson from the University of Tasmania said the data collected would be critically important to understanding how oceans are responding to global warming. "We're the only calibration site in the Southern Hemisphere," he said. "The technique we use is to deploy a series of oceanographic moorings, as well as these GPS buoys on the ocean surface." The buoys stay out for two days and take precise measurements twice every second. Those measurements are then compared to ones taken by satellites. Mr Moltmann of IMOS says it is important to continue collecting the information for long-term monitoring of sea levels.



CSIRO NEWS

East Coast Gliders

The influence of ocean eddies on marine life is expected to become clearer thanks to the 'gliders' patrolling the East Australian Current.

CSIRO scientists and technicians last month retrieved one of three gliders working in south-east Australia after a five-month program criss-crossing the East Australian Current. The glider observing the East Australian Current travelled up to 250km east of Tasmania, making eight crossings in total of the Current, and taking measurements of temperature and salinity to a depth of 1000m. The latest design can descend to nearly 6000m and remain at sea for up to 18 months.

South-west of Tasmania another glider has been measuring a deep ocean current called the Tasman Outflow, that feeds into the global network of ocean currents. Ocean eddies can be up to 200 kilometres across and they distribute heat and nutrients around the ocean and form their own distinct habitat.

The Integrated Marine Observing System (IMOS), fleet of deep ocean gliders also operate in the waters off New South Wales, Queensland, Western Australia and South Australia. They are piloted by staff at the University of Western Australia.

Marine critters get wired

CSIRO scientists from Australia have learned animal trekking quirks by fitting them with electronic recording and transmitting devices, setting them free, and studying the information they retrieve. More than 250 international specialists in the use of telemetry devices (tags) to study animals met in Hobart from 14-18 March at the Fourth International Science Symposium on Bio-logging (Bio-logging4).



Bio-logging helps scientists understand how species and populations use and move through habitats, their resource needs and their capacity to adapt to a changing environment.

The information is relayed via satellite or retrieved direct from tags or recording stations and can help scientists understand how environmental conditions and climate affect animals, guide species conservation and create models for assessing animal populations, ecosystems, and approaches to management.

Research challenges to discussed included expanding the lifetime and sensory capacities of tags; reducing their size; managing and analysing tag data; and, linking the physiology, behaviour and distribution of animals with environmental cues. For more info contact the CSIRO.

New Marine Research Vessel

The 40 year old vessel "Southern Surveyor" (shown below) is due for replacement and recently Canadian firm RALion was awarded a contract to design an 89 meter, ice-strengthened research vessel. Sembawang Shipyard was awarded a S\$123 million contract last month for the engineering, procurement, construction and commissioning of the vessel by Teekay Holding Australia Pty. Ltd. as project managers.



The new vessel will be one of the largest and most capable oceanographic research vessels in the world, capable of continuous and extended operations. It will be based in Hobart and is due to be delivered in the second quarter of 2013.



Ocean Planet NEWS

Ocean Planet Handfish t-shirts and hoodies for sale

Help promote our work protecting Tasmania's unique marine life AND look good in a handfish designed by local artist Madeleine Goodwolf! The t-shirts are green and just \$15 for kids and \$20 for adults, with fitted cuts for men and women. The hoodies are chocolate brown and a bargain \$40. You can order them by emailing marine@et.org.au or just drop in to the ET Office at Level 1, 100 Elizabeth St and pick them up! We're here every week day (phone 6270 1735).

Short film launched successfully

Ocean Planet and Environment Tasmania launched our new film "Tasmania's unique marine environment" at a side event to the Wooden Boat Festival on 11 February. Thanks to everyone who came to the event and helped out at the stall over the weekend! It was a fantastic success with great feedback and we've begun to distribute over 1,000 copies of the DVD. If you would like any copies of the DVD to distribute other leaders or educators, please contact us at marine@et.org.au or on 6270 1734. Please have a look at the film at www.oceanplanet.org.au or provide a link to it on your website!

Push for fish sanctuaries

TASMANIA has stalled on its commitment to establish marine national parks to protect future fish stocks and biodiversity, green groups say. Environment Tasmania has called for consultation by the end of next year to establish a network of protected areas. In 2000, the State Government pledged "to establish and manage a comprehensive, adequate and representative system of marine protected areas". Environment Tasmania co-ordinator Rebecca Hubbard said although some localised areas had been protected, little else had been done.

http://www.themercury.com.au/article/2011/02/07/205281_tasmania-news.html



Redmap NEWS

At the end of 2010 we were very happy to be awarded a grant from the Tasmanian Community Fund (TCF) to extend the success of Redmap by adding some additional web sections. We will be creating sections on marine megafauna (e.g. turtles and sharks) and marine invertebrates. If you've seen any invertebrate species around lately that you think might be new to a particular area, please let us know.

The TCF grant will also fund the production of a waterproof booklet containing information that will help you identify Redmap-listed species when you're out on the water. This great resource will be distributed FREE to Redmap members.

Don't forget to tell your family and friends about Redmap. New members who subscribe before 31 March 2011 go in the draw to win a fantastic \$400 voucher (see page 6 for details)! In addition to this prize, we are continuing with our monthly \$50 Mures voucher subscriber prizes, thanks to Mures Fishing.

Happy fishing, boating and diving.

The Redmap Team

www.redmap.org.au

Redmap and Marine Life Magazine at Clarence

To share resources, Fiona from Redmap and Mike Jacques from Marine Life Mag set up a joint table at the 'Active in Clarence Expo' at the Kangaroo Sports ground. It was to coincide with the Jazz Festival and was meant to sell the general marine conservation and research message as well as our specific projects.

Unfortunately, we were a bit buried away at the edge of the festival, but we still had a gentle flow of people, including many wishing to subscribe to Redmap and the magazine. One lucky newly registering Redmap fishermen won a fishing combo from Anaconda.

WELCOME to all our new subscribers!

Australian Coastal Society gets cracking

After a successful inaugural Annual General Meeting on Saturday 5 February 2011 at the Campbell Town Hotel, the Tasmanian Chapter of the Australian Coastal Society (ACS) has officially formed. 13 keen coastal supporters attended the meeting which focused on establishing the committee, discussing the aims of the ACS in the Tasmania context and identifying priorities for action in the shorter term.

The new committee brings to the chapter a wide range of expertise and experience. The successful committee nominees were:

- President : Eric Woehler
- Vice-President: Chris Rees
- Secretary: Jill Pearson
- Treasurer: Heather Chong
- Communications Officer: Richard Mount
- Committee Members: Clive Attwater, Belinda Colson, Emma Williams.

One of the primary roles of the Tasmanian Chapter, particularly in its establishment phase, will be to provide credible information and advice to the broader coastal community across a range of issues and topics. The committee aims to work closely with its members to fulfill this objective, and in so doing, continue to build the knowledge and skill base of Tasmanian coastal workers and community members.

The Chapter is looking forward to expanding its role as it grows, in line with the broader vision of the ACS, which is, "to facilitate and promote healthy ecosystems, vibrant communities, and sustainable use of coastal resources".

ACS Tasmanian has developed an email distribution list to forward relevant information and opportunities. If you would like to be added to this list, have any questions, or would like to

pass on information for circulation or for the website, please contact:

tas@australiancoastalsociety.org

Meetings are planned to be held quarterly, with the next meeting scheduled for June, followed by September and December. Anyone is welcome to attend meetings. For more information or membership forms please visit: <http://australiancoastalsociety.org/>

Warm regards,

Eric Woehler (President)

Tasmanian Chapter, Australian Coastal Society

My Favourite Snap



"Just found your magazine, I have only just started diving and taking photos. Most of photos are done while trying to get buoyancy right. I take about 50 photos a dive and sometimes one turns out OK, Geraldine"

THANKS FOR THE CONTRIBUTION GERALDINE. A great shot of a long-snouted Boarfish with a Blue-throated Wrasse thrown in for good measure. I'd say somewhere shallow in the Derwent or Channel from the green tinge. The white dots I'm guessing are mysid shrimps, just about the favourite food of every Tassie fish and I'm guessing the reason why this fish is hanging about here. Acting as dive detective, I'd say you also took it recently with the seaweed on the rocks as that weed dies back in Summer a bit when the nitrate levels in the water drop. How did I go?

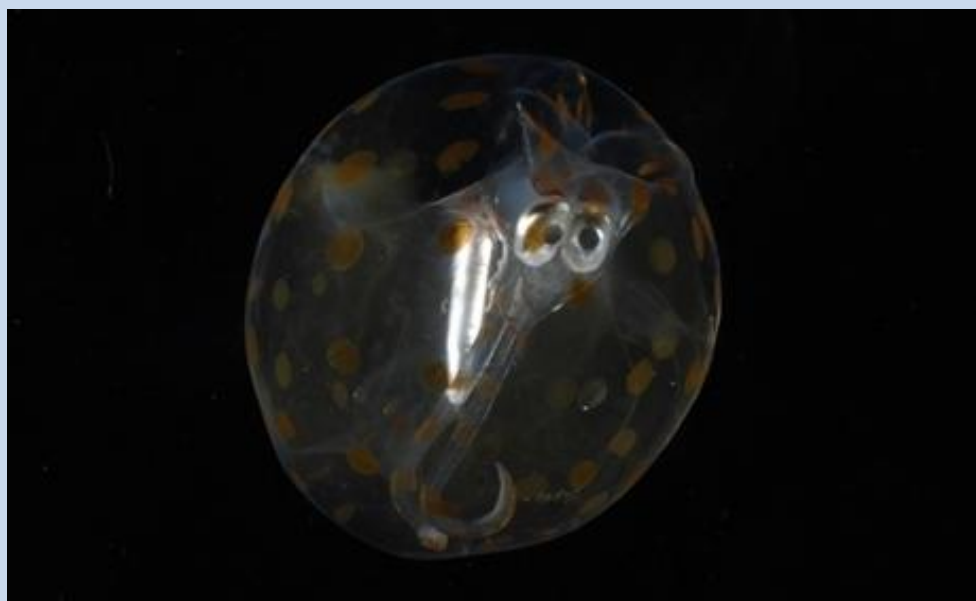
Serious Kids Stuff

By AMY

Weird Animals



This Banded Piglet Squid (*Helicocranchia pfefferi*), a small squid that lives at depths of more than 100m (300ft).





It is its habit of swimming upside down (compared to the way we are used to see other squids), which makes its tentacles look like a crazy mop of hair. The following pictures were taken by a submersible robot off the Gulf of Guinea, West Africa.



More NEWS

Paddlers Cross Bass Strait

ABC News Mon Feb 28 - Seven Victorian adventurers have become the first group to paddle ocean-racing skis across Bass Strait. The paddlers arrived at Little Musselroe Bay in Tasmania's north-east about 11:00am (AEDT), a week after setting off from Port Welshpool in Victoria. The expedition's leader, Jarad Kohlar, says paddling 10 hours every day took its toll. "It's 330 kilometres and it's a long way and it's very mentally and physically demanding," he said.

Fellow paddler Richard Jennings says the group also looked for rubbish on the Bass Strait islands. "Every beach that we came across, even the remotest beaches, were full of rubbish," he said.

An earlier group crossed Bass Strait in outrigger canoes in 2009. The group is hoping to raise \$20,000 for the not-for-profit marine protection organisation Surfrider Foundation Australia. Their newsletter can be found at

Underwater Clean-up



*Picture: CAROLYN DOCKING
Per ABC News -*

Members of the Tasmanian University Dive Club took to the River Derwent during Clean Up Australia day. The dive was organised in

collaboration with marine conservation group Ocean Planet, and spokeswoman Rebecca Hubbard said she was thrilled with the participation of the divers. "We've got about 25 divers in the water and about 15 volunteers up on the docks helping them haul in the garbage," Ms Hubbard said. "It's been a great effort and the Tas Uni folks have really given us great support once again." Ms Hubbard said some of the worst items hauled up were car batteries, which would have contained some volatile acids. The majority of items were cans and bottles. "I think it sends a message that we need to start looking after our marine life and clean-ups like this really drive home how irresponsible some people can be," she said.

Dive club vice-president John Keane said many onlookers seemed shocked by what was coming out of the water, with many taking photos of the collection of rubbish. "I suppose once it goes in, nobody can see it so it's almost like it's not there but you can see the evidence with your own eyes once you've hauled it out of the water," Mr Keane said.



Earth Hour – Empty Gesture?

Since its launch in Sydney in 2007, this Australian idea has gone feral. Earth Hour has expanded to more than 140 countries. This year it was held on March 26 and while the Tasmanian savings in electricity on the night hardly measure up against the load taken by big industrial plants, it is important to spend some time reflecting on the environmental consequences of our lifestyle.

If you didn't wish to participate this year, why not at least devote some power to a rented DVD, like Attenborough's "Blue Planet" and get updated on your knowledge of the background issues (they are fun and have great camera work too).

Oh, and by the way, read up on carbon reduction scheme options, every political party has a view. No it's not just another tax IMHO. It will do some good!

New Marine Adaption Bulletin is out

The February edition of the National Climate Change Adaptation Research Facility's Marine Adaptation Bulletin has just been released, [click here](#) to download a copy.

MAST NEWS – St Helen's barway improvements

About a dozen fishing vessels are based at St Helens. But access to the harbour has been restricted because of a build-up of sand in the notorious navigation channel at Pelican Point.

Justin Foster from Marine and Safety Tasmania said dredging the area was due to begin shortly. "It is very important, it's the only area now where vessels do touch the bottom or are limited by tides," he said. "The barway is very deep now and access all the way to George's Bay is very good except for this one point in the channel." "So this is the last little section we need to do, so it is very important, it's the only area now where vessels do touch the bottom or are limited by tides."

Around 5,000 cubic metres of sand will be pumped from Pelican Point to restore the channel. The first stage of the project removed more than 200,000 cubic metres of sand from the entrance to Georges Bay in 2009. But the second stage was significantly delayed following an objection by the Department of Environment. The work is expected to take about a month.

DPIWE NEWS

Greenlip Abalone Size Limit Change

The 132mm minimum [size limit area](#) for greenlip abalone has been extended from the Robbins Passage/Perkins Bay area to further along the North Coast just past Bridport.

Fishery Closures

Visit the [seasons page](#) for dates and details for rock lobster, scallops and other 2011 closures.

TARFish News

D'Entrecasteaux Channel Marine Farming

Tassal have proposed an amendment to the above Marine Farming Plan. The Marine Planning Review Panel requested public comment on the amendment and the Panel's Report is available by [clicking here](#). TARFish attended the Panel Hearing held in public on 21st February in Hobart where two parties who opposed the amendment were provided with the opportunity to address the Review Panel. We have previously submitted our opposition to the proposed changes as we have major concerns about the constant loss of public access to the marine environment. We will continue to monitor progress on this amendment.

MPA Report

An interesting report has been prepared by Dr. Melissa Nursey-Bray from The University of Adelaide titled "[More than Fishy Business](#)". Dr. Nursey-Bray notes "this is a literature review on the benefits of marine parks and provides an international overview on the design, principles, socio-economic conditions, and different models for MPA's. While it is acknowledged that the benefits of MPA's occur for many sectors and industries, this review explicitly highlights the benefits of MPA's to fishing."

Government Raids Fishwise Community Trust Fund

The state government looks set to continue to raid the Fishwise Community Trust Fund to pay government salaries to the tune of over \$160,000 in 2010/11.

The Fishwise Trust Fund was established to provide critical funding for research and community projects which support recreational fishing in Tasmania. Funds for the Fishwise Community Trust Fund are allocated from around \$1.2 million worth of recreational marine fishing licences sold each year.

The state government first raided the Trust Fund for the 2009/10 year citing the Global Financial Crisis as the reason for the raid. TARFish objected to the Minister for Primary Industries about the reallocation of funds at the time and continued ministerial pressure for reinstatement of Trust Fund monies in the lead up to the state election in March 2010. The Premier acknowledged the Global Financial Crisis had passed in early 2010 and gave the following commitment to Tasmania's 125,000 strong recreational fishing communities "As a response to the Global Financial Crisis (GFC) \$150,000 of this money was transferred to support fisheries management. A re-elected Bartlett Labor Government will restore this amount to the Trust Fund in the 2010/11 budget now that the GFC has subsided."

Following release of the Fishwise Trust Fund Budget for 2010/11 by the government TARFish noted the funds had not been reinstated as per the commitment and at once contacted The Premier's Department seeking an explanation. Following nearly 12 months of being referred backwards and forwards between The Premier's Department, Treasury and the Minister for Primary Industries office the Fishwise Community Trust Funds have still not been reinstated and the government refuse to provide an answer.

The Minister for Primary Industries noted at the time the funds were first raided “an ongoing community grants program is not sustainable under this model at this time.” Due to the Ministers comments TARFish are deeply concerned that without reinstatement of the Trust Fund monies grave concerns are held for the continuation of important research and community projects that support recreational fishing across the state.

NEW TARFISH SEAL POLICY RELEASED

TARFish have been working on developing and finalising an association policy on Seals over the last 6 months. The policy is based around managing seal interactions with recreational fishers. The full endorsed policy is located on the TARFish website Policies page.



Seal Policy

As early as 1827, Tasmania Governments recognised the devastation caused by failure to regulate the seal fishery. It has been estimated that the natural seal population around Tasmania was around 200,000 seals prior to the seal fishery commencing. When stocks began to recover in 1891, laws to provide a level of protection for the seal population were introduced, and have continued in force for over a century. The protection provided by legislation encouraged the seal populations to grow, and the growth trend continues. As at 2010 seal numbers are estimated at around 80,000. As with most other native fauna, seals no longer breed in all areas they occupied 200 years ago. Seals are a protected species and Government policy is that no active intervention measures are proposed to facilitate population rebuilding. The TARFish policy on seals is based on minimising interactions with seals and thus reducing the potential impacts to recreational fishers from such interactions.

Possible Solutions to Minimising Interactions.

In Tasmania fur seals (Australian and New Zealand fur seals) interact with recreational fishers on a regular basis. Anecdotal evidence suggests that this interaction is sporadic, opportunistic, but can be intense when it occurs. These interactions may result in, damage to gear, a loss of catch or the potential for injuries to occur to humans and seals. There are a number of different practices that can be employed by recreational fishers to minimise interactions with seals.

Approaching Fishing Location

If the intended fishing ground is a known seal area or fits the description of a preferred seal area, it is essential the following steps be taken to minimise the possibility of an interaction.

1. NEW AND OCCASIONAL GROUNDS

- If, after leaving the launching or mooring facility, it is necessary to round a boundary point, travel well to seaward before making the turn.

- Avoid travelling close to all shoreline and especially areas that have suitable seal resting or sunning positions.
- Throttle back well before fishing activities are commenced
- Avoid abrupt throttle applications.
- In the case of line fishing, consider leaving the engine at idle

2. REGULAR GROUNDS AND COURSES

If the operation involves regular trips and/or regular destinations, in addition to the above;

- On a daily basis, vary the course taken on leaving the ramp or mooring.
- Vary the direction from which the fishing ground is approached.
- On a daily basis, vary vessel cruising speed.

These three practices will lessen the likelihood of seals identifying the fishing activity as a regular food source. Tasmanian Association for Recreational Fishing Inc. *Seal Policy V1.0*

During Fishing Activities

1. NOISE

- Keep noise to a minimum.
- Put matting or carpet on the deck of your boat
- Wrap rails and gunwales with carpet and tape or use a split piece of PVC pipe.
- Do not drop or throw bins and buckets and other equipment in the boat
- Land fish into a container of water or a well sound-proofed bin.
- Do not leave fish flapping on deck.
- Avoid aggressive throttle applications.

2. NOTHING OVER THE SIDE

- Food scraps, used bait and fish offal should not be discarded on fishing grounds.
- Catch can still be cleaned at sea, but do so well away from any fishing gear or fishing activity. Anything, edible or not, discarded over the side, will attract the attention of birds and birds will attract the attention of seals.

3. REGULAR INSPECTION

- Do not leave hooked, trapped or netted fish in the water any longer than is necessary.
- Establish the prime time for the target species and consider removing gear from the water entirely during the quiet periods.

If seal interactions continue, consider moving or even ceasing fishing for the day. Seal interactions in Tasmania are not significantly different from those in other States and countries that have seal populations. It is normal for seals to 'swim through' an area rather than hang around, so the problem may go away fairly quickly. This is also a good strategy to minimise the link between fishing activity and food reward.

Reducing Seal Interactions

- NEVER FEED SEALS! Never use fish for a decoy or throw fish waste to seals. This is training them to link boats with an easy feed.
- Try to avoid areas where seals are known to interact with fishers and if a seal takes your fish move away.
- Keep noise to a minimum because seals have good hearing
- Seals are curious and may approach and potentially swamp vessels, so be alert and always observe marine safety rules.
- Remember, seals target fish not boats, so try to minimise your interactions with them.

Minimising interactions is underpinned by the fact that - If there is no reward in the form of food, the interaction will be reduced.

- Tasmanian Association for Recreational Fishing Inc. *Seal Policy V1.0 Effective Date: 8th February 2011*

EPA NEWS

Dead fish and squid in River Derwent investigated

Tasmania's Environment Protection Authority (EPA) is investigating the death of thousands of juvenile barracouta and squid at sites in the River Derwent. The Director of the EPA, Alex Schaap says pollution is not thought to be behind the fish kills at Windermere Bay and New Norfolk.

The Environment Protection Authority yesterday confirmed reports of more dead squid further down the river. The squid kill is the third case of mass fish deaths in the Derwent in the space of two weeks. Early a large mass of dead juvenile barracouta was found in Windermere Bay near Claremont Primary School. This followed a similar number of juvenile barracouta being found dead just south of the Norske Skog paper mill at Boyer the week before.

"When we have an event which involves a single species we tend to suspect there is some behavioural factor involved, a natural phenomenon," Mr Schaap said. "The squid don't appear to be fully grown." "It is possible that these fish have been caught in low-salinity water following the high stormwater discharges over the weekend."

Locals say they have never seen so many dead fish. Residents fear the river may be contaminated. Brenda Hale has lived on the Austins Ferry waterfront for 40 years and said she had seen dead fish only once before. "All this squid is not a pleasant sight or smell," Mrs Hale said. "It makes me think something is not right with the water." Tim Strange, of Claremont, who grew up in the area, said he had never seen anything like it before. "Wherever you look you can see squid washed up all over the rocks," he said.

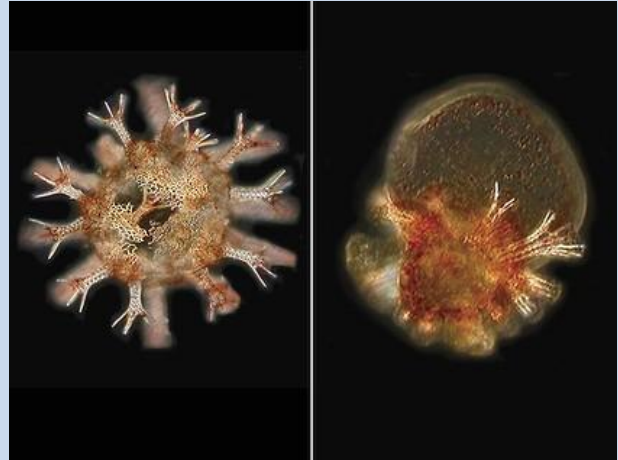
Warming Seas a disaster for baby urchins and abalone

Extract Nicky Phillips, SCIENCE

MARINE abalone and sea urchins will not develop normal skeletons if the ocean continues to warm and acidify as predicted.

A group of Australian marine biologists reared abalone and sea urchins in present ocean conditions and compared them with young raised in warmer, more acidic environments that scientists predict will become reality for the world's oceans within the next 100 years.

While abalone larvae raised in control conditions had a well-developed shell after 21 hours of life, most larvae reared in water with a pH of 7.6 - a 0.4 drop in pH level compared with today - were dead or severely abnormal after the same time frame. An increase in temperature of just two degrees had a negative effect on baby abalone development and only 20 per cent of young raised in water four degrees warmer than today survived.



A normal 5-day sea urchin and one in reared in extreme conditions.

The study found developing abalone had only a limited ability to cope with changes in temperature and acidity, and larvae could not recover and grow shells when they were placed in normal conditions.

While urchins liked a slight increase in temperature, a lower pH reduced the number of spines juveniles could grow. But a combination of lower pH and increased temperature resulted in abnormal development for 80 per cent of young.

A marine biologist and lead author of the research, Maria Byrne, said Sydney [and presumably also Tasmania] could experience extreme temperature and pH conditions, such as those used in the experiments, by 2070 to 2100.

"We are warming appreciably faster than other parts of the world because we have the East Australian Current which is bringing warm water all the way down the coast to Tasmania."

Weird & Wonderful Marine Critter sightings

My fisho friends say squid are everywhere at the moment and there seems to be plenty about. Most are the less tasty arrow squid.

A King Penguin was seen at Heybridge on NW Coast on 15 March.

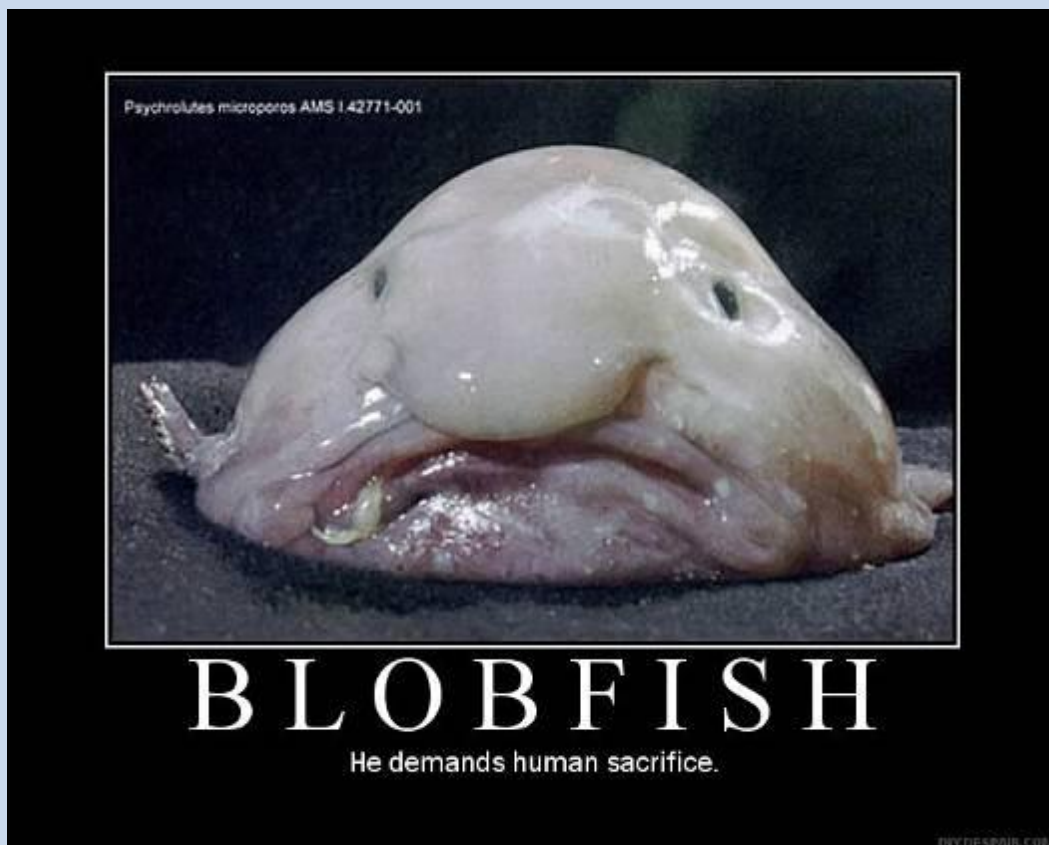
Dr Johnny Keane got buzzed by an Elephant seal on a recent dive, but no pictures so I'm not sure if I should believe him ;-).

A birding group out of Eaglehawk Neck on a cruise in "Pauletta" have seen a European Storm-Petrel. The first record for Australia. A Great Shearwater (a first for Tasmania) was also seen and photographed. Other good birds included a single Little Shearwater, 2-3 Buller's Shearwaters, Soft-plumaged Petrel and Gould's Petrel.

The fox hotline has received calls (yet to be confirmed) about sightings at Canoe Bay, Port Sorell, Coles Bay, Muirs Beach, and Oyster Cove. The Canoe Bay one is problematic as it is near a unique little penguin colony in a national park.

The 11 Long-finned pilot whales that stranded at South Bruny have all been rescued by volunteers. The whales were stranded on Butlers Beach on the northern tip of Labillardiere Peninsula, adjacent to Partridge Island.

If you spot anything out of the ordinary drop us a line. If it's a fish not usually found in your area , report it to www.redmap.org.au as it might be scientifically important. (They also often have prizes for people subscribing to their newsletter)



Another random image gratuitously stolen from the internet...

Pulp Mill Pulp

We won't comment other than to present the material already on the public record. You can do more research and decide for yourself.

(ABC News) Mar 10 - Tasmanian pulp mill gets green light



Gunns wants to build the mill next to its Longreach woodchip site on the Tamar River.

The Federal Government has given final environmental approval for a new pulp mill in northern Tasmania.

Timber company Gunns will be allowed to build the controversial \$2.5 billion project in the Tamar Valley, but with tougher environmental conditions.

Tougher rules were imposed after a request from Gunns for the Government to lay down stricter conditions.

Discharge condition

Mr Burke has also included tougher limits on any discharge from the mill. "It will now be a condition of the project as a whole that the discharge can only occur through what's known as elemental chlorine-free light technology," he said. "This is a much tougher environmental condition on the discharge. It one that has been demanded by environment groups. "It is something which Gunns has been saying they were willing to do. They will now have to do it as a condition of the development."

Gunns still has one more major hurdle to clear; the company is yet to announce a financial backer for the mill.

Commonwealth Environment Department release (extract) – FAQs

Federal Environment Minister Tony Burke has approved the final three modules of the Gunns Bell Bay pulp mill environmental impact management plan, completing the project's Federal environmental approval requirements.

Malcolm Turnbull's approval of the mill in 2007 came with a requirement that Gunns develop an environmental impact management plan. In 2009, former Environment Minister Peter Garrett refused to approve the remaining three modules until the company had undertaken all the modelling and scientific studies required by the approval conditions.

Mr Burke's decision follows a thorough assessment by the Federal Environment Department and an Independent Expert Group of Scientists who carefully reviewed the modelling and scientific studies provided by Gunns to ensure the management plan protects the environment in the Bass Strait.

→ **What scientific studies and modelling did Gunns undertake for these modules, and what did the expert group conclude?**

Gunns advised it completed extensive scientific studies at a similar pulp mill overseas to obtain a full understanding of discharge composition, and undertook comprehensive modelling. It is predicted that the discharge will be made up of more than 98 per cent water when it reaches Commonwealth waters-which is the only matter the minister can consider in making this decision under national environment law-it will be so dilute that elements will be below detection levels.

Gunns will have in place an ongoing monitoring program, which will set baseline levels, so that early action can be taken should conservative thresholds be exceeded.

The expert group concluded that the final parts of the management plan satisfactorily met all the relevant approval conditions.

→ **What will be the impact of the discharged from the mill in Bass Strait?**

The Australian and the state governments are responsible for different areas of the marine environment. To ensure the Commonwealth marine environment is protected, the federal conditions of approval set strict limits on the allowable levels of discharge that can be released by the mill. The approval conditions require Gunns to develop strategies to monitor the impacts of the mill effluent on the marine environment.

This monitoring plan must cover issues such as the quantity and quality of the discharge as well as impacts on the marine environment including the quality of the water, sediment and ecology. Much of this monitoring will need to take place in state waters, where the discharge will be released, so can be seen as an added safeguard to ensuring the protection of the Commonwealth marine environment.

Gunns has now completed further hydrodynamic modelling to predict the fate of effluent once it mixes with and is diluted by seawater.

→ **What happens if the discharge exceeds the maximum limit allowed?**

Gunns will be subject to civil and criminal sanctions under national environment law, including penalties of up to \$1.1 million for each offence. If Gunns are unable to reverse the impacts of such exceedances, the mill must cease operating until a satisfactory tertiary treatment solution is installed.

→ **What controls are in place to make sure that the pulp mill will have good environmental standards?**

The Federal approval contains strict conditions under the *Environment Protection and Biodiversity Conservation Act 1999* to ensure those matters listed under the legislation are protected. As part of these conditions, Gunns was required to submit an environmental impact management plan, the final three modules of which the Minister has now approved.

The management plan is divided into sixteen modules, each dealing with a specific phase of construction and operation, such as vegetation clearing, pipeline construction and the monitoring program. The conditions also require transparent and regular reporting by Gunns. An independent site supervisor has been appointed to monitor how the project is complying with the management plan.

(Extract of a Media Statement By Gunns follows)

<http://www.gunnspulpmill.com.au/factsheets.php>

→ *Why does Gunns want to build a pulp mill in Tasmania?*

Pulp is far more lucrative than woodchips. Shipping woodchips to Asia is not sustainable in the long term due to increasing competition from South America and the Pacific Region which don't have the high costs associated with wages and regulations that we have in Tasmania. While woodchips fetch about \$190 per BDMT (bone dried metric tonne) on the Asian market, pulp brings in about \$820 per adt (air dried tonne).

→ *Will effluent (waste water) from the proposed pulp mill impact on the Tamar River?*

The "effluent" is water that has washed the wood fibre. It will have no effect on the Tamar River as it is being discharged through a long pipe into Bass Strait. 99.7% of the effluent that is discharged into the Bass Strait is water; the rest is similar to the natural fibres that make up wood. Many pulp mills discharge pulp mill waste water into a river or a lake. For example, in Scandinavia pulp mills are often built around freshwater lakes that not only disperse the waste water from the mills but also supply the drinking water for local towns! However, the Tasmanian Government has stipulated that no effluent can be discharged into the Tamar River. Treated effluent will instead be piped 23km to Five Mile Bluff and discharged through a multi-port diffuser system at a depth of 26 metres, about 3km into Bass Strait.

→ *Will the effluent impact on the seal colony?*

There is a seal colony about 15km from the outfall site so we undertook a risk assessment of potential health risks to the seals. The results of these studies showed that there is a very low risk of bioaccumulation and biomagnification from the discharge of pulp mill effluent on the marine environment, including benthic invertebrates, fish and mammals.

→ *Will dioxins be produced?*

The introduction of ECF and TCF bleaching processes between 1990 and 1993 has virtually eliminated the release of dioxins and furans. Dioxin formation in the discharged pulp mill effluent is calculated to be almost non-existent, undetectable and significantly below both the level of detectability and the emission guidelines limit.

→ *Will the proposed pulp mill affect the Bass Strait marine environment?*

The health risk assessment has identified that the pulp mill effluent will have a negligible impact on seafood and human health. The studies show there is little potential for the tainting of fish in the outfall area, fish will not accumulate metals into the muscle, there is a very low risk of bioaccumulation, the content of persistent organochlorines will be below detection limits and there will be no visible colour where the effluent is discharged.

→ *Why is the proposed mill designed to be ECF (elemental chlorine-free) rather than TCF (Total Chlorine-free)?*

The Pulp Mill will use proven, state-of-the-art technology that also provides the best possible environmental performance. Environmental and technological innovations will give the Pulp Mill a valuable advantage over existing mills and are expected to lead to efficiency and environmental sustainability benefits that will balance the investment cost.

The Pulp Mill will utilise a BAT (Best Available Technology), Elemental Chlorine Free bleaching process that is used in more than 90 per cent of the production of global market pulp and satisfies all relevant environmental guidelines, including those of the RPDC, United Nations Environment Program and the World Bank. The Bell Bay pulp mill is designed to comply with Australian regulations and international standards for modern mills including an Elemental Chlorine Free bleaching process which is a modern proven technology utilised by the vast majority of global pulp mills. Bleached Kraft pulp mills using ECF technology have evolved over recent years, with each one being technologically and environmentally better than the last.

A Statement by The Wilderness Society Tasmania (extract)

Federal Environment Minister, Tony Burke, gave the Gunns' Tamar Valley pulp mill the final environmental approvals on March 10 after delaying the decision for one week. Despite some very real improvements to the original proposal, the pulp mill still fails the grade on many of our issues.

...Another outstanding issue clouding the approval of the Tamar Valley mill is the impact of releasing toxins from the pulp mill into the local marine environment. We are still scrutinising the detailed technical reports that were released yesterday to determine the impacts on the marine environment but we remain deeply concerned that this project will harm the marine environment.

[the following is an earlier 2010 statement on those previous concerns]

Our marine life and fisheries

Each day Gunns will dump 64,000 tonnes of toxic pollution into Bass Strait.⁵ This effluent will contain dioxins and furans—some of the deadliest substances known to science. These build up over time in the food chain, contaminating fish, shellfish, seals and other marine life. This could damage our export fishing industry, which relies on clean water and a clean reputation. Experts—including the Tasmanian Government's own consultant, Sweco Pic—have said that Gunns failed to carry out adequate baseline studies and modeling of the effluents.³ Oceanographers have warned that the effluent will frequently blow back to pollute the shore and the Tamar Estuary.⁴

Gunns' proposed pulp mill is a long way from being world's best practice. It uses old-fashioned Elemental Chlorine Free bleaching technology, will release toxic emissions of dioxin, among other pollutants.¹ The best technology for pulping is totally chlorine free.

As the name suggests, Totally Chlorine Free technology guarantees that no dioxins or other chlorinated compounds will be created or emitted through the production process. These pollutants are a major concern for the marine environment of Tasmania and the local fishing industry.

Gunns have promised to keep the levels of toxic pollutants low, but according to Erik Nystrom, senior technical officer at the Swedish Environmental Protection Agency, it is still incredibly high. A Totally Chlorine Free mill does not generate dioxins at all, and even a modern Elemental Chlorine Free mill should be able to release levels of dioxins so low that they can't be detected.

Portfolio

Alan Fletcher

Alan is a keen bird enthusiast and photographer. He runs the Bird Blogspot which is a real goldmine of information on Tassie's seabirds and shorebirds among others. As you can see it has excellent photos too.

<http://tassiebirds.blogspot.com/>



White-faced heron being chased by breeding oystercatchers



White faced heron



Australian pelican



Little egret



Eastern curlew



Australasian gannet



Hooded plover



Female red capped plover with juvenile



Sooty Oystercatcher



Grey-tailed tattler

Who cares about seaweed?

Part 1

By Mike Jacques



Doesn't algae just sit there washed up on the beach, all smelly and shriveled? We mostly don't eat it, it isn't particularly colorful and it has no intelligence. Most of it is planktonic and can't even be seen with the naked eye.

It seems as if it is something to be ignored, or if you are like some learner divers I know, even feared. We call it a "weed"

when algae is in fact, far from a nuisance. Plants are the basis of all life in the oceans, just as they are on the land. Seaweeds (macroalgae), and the microscopic marine plants called phytoplankton, produce up to 75 percent of the world's oxygen and are a sink for 25 percent of the world's carbon dioxide.

Plants convert energy from the sun into body tissue, which in turn feeds other animals. Algae use a chemical called chlorophyll to convert the light energy, just like land plants. That means that in the ocean, plants dominate only the surface layer, usually in not more than 70 metres of water, where light penetration is good.

While we often talk of green pastures on land, in the ocean the visible seaweeds (called macroalgae) come in three main colour groups, green alga, red alga and brown alga. These different 'colours' of algae are the result of the different photosynthetic pigments that each alga uses and these reflect different wavelengths of light. A small additional group called bluegreen algae are often associated with toxic blooms.

Another group of marine plants are the sea grasses, but they aren't true seaweed. Sea grass is more closely related to land plants, even though they have adapted to living in sea water.

The ocean flora may come in only three main colours, but there is a huge variety of species and forms. Seaweeds vary from tiny strands to mighty forests.

When you think about it, our relative disinterest in marine flora is all a bit strange. It's like walking around everywhere and not noticing all the grasses, trees, shrubs and flowers. Many seaweeds are not even fully described. A lot of the ecology of seaweeds is still unknown and most of what we do know is about inter-tidal algae.

The seaweed's place in the ecosystem is very special. Seaweeds have been called "environmental engineers". They create or modify the habitat so much that they pretty much determine who lives along the rocky temperate coasts and what happens there.

Seaweed helps create a very diverse reef ecosystem comparable to a tropical rainforest. The algal beds supply food, shelter and camouflage to a huge variety of animals. Like a forest on land, a seaweed bed is a garden full of dappled light and small animals rummaging around in the 'leaf' litter. Instead of being patrolled by birds, algal beds are patrolled by a variety of fish. In one study, 147 different taxa (groups) of animals were found on only one patch of intertidal coralline algae.

While divers might marvel at the colourful fish using the algae as cover, much of the life in seaweed beds is small. It includes swarms of tiny mysid shrimps that seahorses and handfish love to feed upon. Look very hard and you will see sea lice (amphipods), with bodies like armadillos, clambering around on or near the holdfasts. The 'larger' animals include herds of abalone and urchins grazing on the fallen leaves (stipes) of algae like antelope. These herbivores are hunted. Ravenous predators like crayfish wait for night to fall so they can catch an exposed urchin, in turn falling prey to hunting octopus.

While anchored algal plants create a unique environment in the ocean, plants that have broken free of their holdfast and drifted away are important in helping marine animals to move to new areas. A lot of kelp can be seen drifting out at sea, and scientists have always suspected that it could travel a long way, perhaps even crossing entire oceans. A wide variety of rocky-shore animals raft with kelp by clinging onto it, or by living deep within burrows and crevices in the kelp's base. The 'hitch-hiking' animals included sea horses, small fish, snails, sea-stars, crustaceans, and sea-spiders. Plants that have been drifting in the open ocean for a long time often have large, stalked goose barnacles growing on them.

Coastal species that live on small, isolated islands do not have many options when it comes to inter-continental travel. This type of rafting is an important means for many rocky shore species to spread across oceans, and around the isolated coasts of the Southern Hemisphere. Some kelp plants from the subantarctic Auckland Islands have been identified as travelling several hundred kilometers north to as far as Dunedin, New Zealand. These ocean voyages are estimated to have taken several weeks, and in some cases over two months. Brown kelp's strong buoyancy and toughness made it able to withstand long periods adrift in the ocean.



Stumpy's Bay NE Tas

Washed ashore, these “wrack” plants are quickly broken down for food by beach animals. The resultant swarm of kelp flies and beach hoppers make an excellent foraging habitat for shorebirds, particularly migratory birds. The dry seaweed is also an important nesting material. With close to 3000 species, Australia has about the richest variety of marine algae in the world. The most varied are in the temperate zone where the cold oceans are nutrient-rich. The southern coast of Australia has about 1200 of these species.

A large percentage of our algae species are found only in Australia. Many species are unique to Tasmania.

Next month we will help you to identify the main species of dominant seaweed. So instead of stepping over the seaweed you will be able to impress everyone with your knowledge and be a smart Alec.

Maritime Heritage Sites - – WWII Forts

Pt 1 - Fort Direction



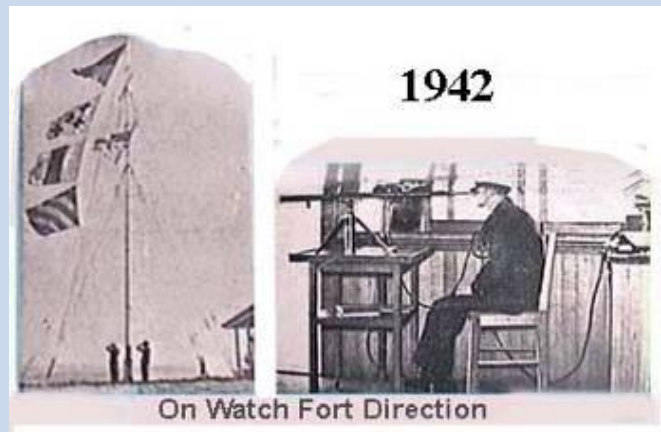
Defense scares seem to have been a feature of Australian colonial life. Hobart is dotted with some expensive fortifications. None of them fired a shot in anger, but they did allow middle class businessmen to strut about in Volunteer Artillery uniforms, back in the days when Tasmania had its own army.

First of the forts to be built were small open breastworks like the Domain and Mulgrave batteries. They were designed to meet the threat of attack from the Napoleon. Later it was the seemingly

fanciful fear of Tsarist Russia that spurred renewal of the defences, leading to substantial and very useless additional forts at Bellerive Bluff and Sandy Bay. These were then reused for the First World War, but by then the obsolete cast iron cannons and fixed fortress walls were well and truly obsolete.

During the Second World War, Australia faced a genuine menace. With traditional trade routes like the Suez and Singapore under threat, Melbourne and Hobart were important secondary ports for Allied trading vessels.

The Derwent rapidly got an upgrade of its defenses with old WWI naval guns being installed at Fort Direction on South Arm and at Piersons Pt on Tinderbox. By the end of 1939 construction of new gun emplacements had been started with a control building above each battery. There were two six inch guns at Fort Direction and one 4 inch gun at Piersons Pt. Most of the beaches and the hillsides of South Arm and Tinderbox were covered with barbed wire entanglement and this remained so for some years after the end of war. At Goat Bluff there are still the remains of underground trenches that were built at that time. I have also heard stories of smaller AA gun emplacements on Betsey Island.



There was a naval command on the hill at Fort Direction. These men had to carry out watch over the entrance to the harbour. A small weather board building of four rooms was constructed on the top of the hill with the adjacent flag pole for the raising of signal flags. A watch was maintained 24 hours a day from 1940 - 1945.

These gun emplacements were stocked with conscripts who had been rejected for overseas service. It was a pretty dull war. The crews underwent constant drilling to try and keep them alert. A raft was trailed two hundred yards behind a minesweeper in Storm Bay and this was used as a target. I have also heard stories that they amused themselves by trying to hit Little Betsey Island during regular practice shoots.

A bit of fun could also be had firing at ships abusing protocol. One recruit remembers the time a Liberty ship entered the River Derwent but did not respond to signals from the naval command at Fort Direction. A gun was fired as a warning. This brought a very quick response from the Liberty ship.

This military activity was not as purposeless as it might seem now with the benefit of hindsight. There had already been one Axis 'attack' on the Derwent. The German raider "Penguin" arrived one night and laid 40 mines at the mouth of the river in 1940. A minesweeper had to be brought down from Melbourne to clear the minefield. The Germans had more success when they tried the same thing in Bass Strait, bagging a couple of merchant ships off the Victorian coast.



The Japanese were also intermittently interested in the shipping that frequented Hobart, but for the most part they concentrated their efforts on the approaches to Sydney.

The local recruit's biggest challenge seemed to be to manage the constant boredom of being far away from the war, doing something seemingly pointless. Then one day, the Japanese appeared!

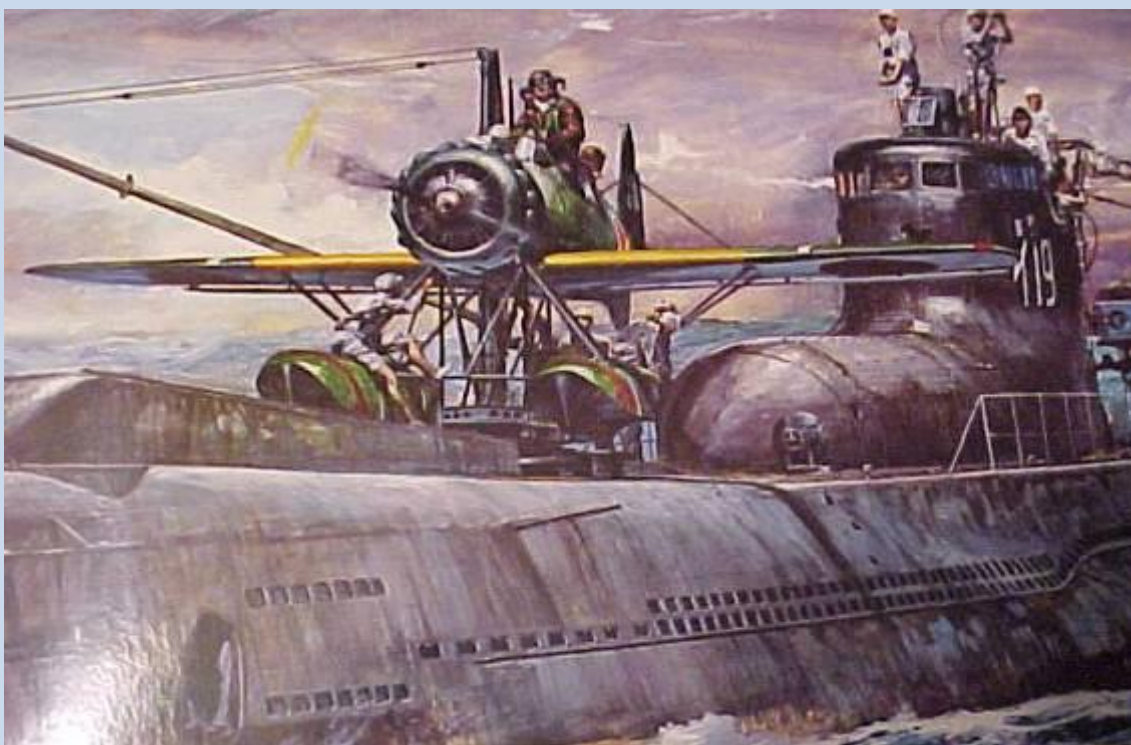
Japanese Plane Buzzes Hobart

"I can remember it quite well when on Sunday the 1st of March 1942 a small Japanese float plane flew high over South Arm to the east and up over Hobart as far north as Bridgewater. It was a very clear morning and the drone of the engine could be heard but the plane being so small it was not much more than a speck in the sky. It was reported much later it had come from a Japanese submarine off the south coast. Following this two guns were established on the fort hill and practice was carried out, a balloon being released as a target."

The plane was a small submarine launched floatplane called a "Glen", piloted by Nobuo Fujita. The small wood and fabric aircraft had been launched from the hangar of the Japanese submarine I-25.

The I-25 had been patrolling around the Australian coast and had already launched reconnaissance flights over Sydney and Melbourne. In Melbourne, the plane had been spotted by the defenders, but escaped while the inexperienced recruits rang up HQ and waited for orders to open fire.

Commander Tagami then pointed I-25 back down the west coast of Tasmania, travelling on the surface. They decided to recon Hobart from Great Oyster Bay, about half way up the east coast of Tasmania. Tagami brought I-25 into the large bay under a full moon.



<http://airalex.homestead.com/SUBS.html>

The pilot decided to take off from the water rather than use the catapult on the front deck of the submarine. The "Glen" floatplane was withdrawn from the waterproof hanger at the front of the submarine, assembled, and lifted into the water. Two hours before dawn, Fujita and his observer, Okuda, were heading south for Hobart. Once he was well south of Cape Pillar, Fujita turned north west and went around the Tasman Peninsula. He then made another sharp turn and approached Hobart from a southerly direction.

With the full moon, they could easily spot all the fishing boats and coasters on the Derwent River. They spotted the glow of a furnace at a foundry [probably EZ works at Risdon where he was spotted circling] and saw a white concrete road leading away from Hobart. They could see the magnificent Mount Wellington looming over Hobart, a city that they remarked was quite beautiful. They saw 5 cargo ships at anchor but no warships.

Fujita retraced his course back to the submarine arriving just after dawn. As they were preparing to lift the aircraft on to the deck of the submarine, a lookout spotted a small freighter steaming southwards. After some anxious moments it became apparent that the steamer had not seen the Japanese submarine.



Picture <http://www.dvsm.org/Cookies2009Reviews.html>

As the "Glen" was being lifted, the submarine rolled in the rising swell causing the wingtip of the "Glen" to swing hard against the crane. The spruce formers and plywood wing ribs splintered under the impact. Fujita, who was still in the cockpit at the time, was devastated when he heard the cracking sound of the impact, there were no spare wings carried on I-25. Tagami then set out on the surface for their 4 day journey to New Zealand. The maintenance crews managed to roughly repair the damaged wing tip.

Threatened Species

Live-Bearing Seastar (*Patiriella vivipara*) -The ultimate gender bender

Primary source PWS website



Tasmania has the largest number of listed threatened invertebrate species of any State. This tiny seastar, called *Patiriella vivipara* is listed as endangered under the *Threatened Species Protection Act 1995*. It is a tiny orange-yellow seastar, with adults only reaching up to 13mm across. It is endemic to Tasmania which means it is only found here. The name *P. vivipara* comes from the seastar's ability to produce live young instead of eggs. This is known as viviparity. The newborn seastar is a tiny replica of its parent.

This is Tasmania's only known endemic, viviparous seastar so it is very special. Only three species of the world's sea stars are live-bearing. The two Australian live-bearing species have the most restricted range of all the world's known Asteroidea sea stars. *P. vivipara* was first described from the Pittwater area in 1968.

P. vivipara is threatened because it only occurs in a limited area. All the known populations occupy less than 3 hectares. They are restricted to rocky reefs in the tidal zone and seem to prefer living under rocks near the high tide mark. This puts them at great risk from changes to their habitat. For example, they are at risk from pollution or sedimentation. It is also thought that the introduced NZ seastar *P. regularis* could be competing with it.

It is very important that local people are educated about marine species, especially about the importance of not collecting specimens. Many of our invertebrates are becoming threatened through over collection.

These sea stars are hermaphrodites, both male and female, with multiple gonads. They contain 6 to 8 predominantly female gonads and 1 predominantly male gonad, and they can fertilise themselves. They incubate their young in the gonads to an advanced juvenile stage, probably to give them a head start in the harsh intertidal environment where they live. They will carry young of different ages in their gonads and juveniles emerge from the parent at sizes ranging between 1.5 and 5.0 mm diam. Giving birth is a big event with the oversize young squeezing through a narrow pore (ouch).

Given half a chance, the juveniles will prey on their siblings and cannibalism accounts for a lot of their early food.

On the Edge

Tasmanian's southern continental shelf rocks

Photos - ecology solutions, NPWS and Simon Mustoe
http://www.ecology-solutions.co.mau/pedrabranca_Jul08/index.htm



It is 1642 and two Dutch exploration vessels are inching their way around the South Coast of Tasmania. They have named the land that obstructs their path Van Diemen's Land after their patron in Batavia. Their patron has hoped for gold, spices and riches, but instead they have seen barren wind-swept lands that are devoid of signs of habitation. They are unsure of the way ahead and standing well clear of the land. Then distant threatening rocks loom up.



29 Nov. In the morning we were still near the rock which is like a lion's head; we had a westerly wind with a top-gallant gale; we sailed along the coast which here bears east and west; towards noon we passed two rocks of which the westernmost was like Pedra Branca off the coast of China; the easternmost was like a tall, obtuse, square tower, and is at about 4 miles distance from the mainland.."

To be holed by a hidden rock here means certain death for the whole crew as they are thousands of miles away from any help navigating in totally uncharted waters. The Dutchmen move on to Lagoon Bay where they encounter signs of Aboriginal campfires, but see no wealth and nothing to trade. The wealth of Tasmania was not then apparent. The true treasures were the rich life to be found on those distant rocks at the edge of the continental shelf.



The Thrilling Eddystone



Eddystone Rock is an eroded remnant of the Tasmanian mainland. It is estimated to have separated from the mainland at least 15,000 years ago. Eddystone was named by Capt Cook in 1777 because of its resemblance to the lighthouse of the same name in England.

The rock has little vegetation growing on it and is noted mainly for its seabirds, seals and massive waves that pound down on a shallow rocky shelf that skirts the rock. Eddystone's modern claim to fame is as a surfing spot. It has become an iconic 'big wave' surfing site after featuring in the Tom Carroll, Ross Clarke Jones' documentary "Storm Surfers".

The nesting seabirds are Australian Gannets, Black-Faced Cormorants and Fairy Prions. Australian and New Zealand fur seals also haul out onto the lower ledges.



<http://www.brisbanetimes.com.au/ftimages/2009/02/20/1234633032520.html>

The Wonder and Tragedy of Pedra Branca

Pedra Branca Island is the only known habitat of the Pedra Branca Skink and is an important seabird rookery. It lies 28 kilometres off the south coast of Tasmania. The island is 270 metres long and 100 metres wide and reaches a maximum height of 60 metres. It is classified as a National Park and is a quarantine island. Visits to the island are regulated.



People have to work on Pedra Branca Island in order to research the ecology of the island's seabirds, undertake census work on seals, and also to conduct research on the endemic Pedra Branca Island Skink. This research requires day trips approximately two or three times per year. This is dangerous work due to the huge swells. On 15 April 2003, oceanographer Hamish Saunders drowned after being washed off Pedra Branca by a freak wave. The Coroner's Report into his death described how Hamish was swept away when a "wave hit the island resulting in heavy spray coming up to and over the 45 metre (148 ft) level".

Unique skink

The vulnerable Pedra Branca skink is only found here. It is also the only lizard on the island. Adults have a



head and body length of 6-10 cm and a weight of about 14 grams. Pregnant female skinks can weigh up to 22 grams.

There are six separate colonies of Pedra Branca skinks on the island. These lizards shelter in deep crevices and cracks which provide essential protection from wind, salt spray and even waves. Adult skinks will fiercely defend their burrows against intruders. They are active only when air temperatures are above 15°C.

Most of the food of this species consists of small invertebrates like insects, spiders and isopods, but the species also feeds on fish regurgitated from seabirds and seabird eggs. These foods are only available to the Pedra Branca skink on a seasonal basis.

Pedra Branca is about 55 m above sea level at its highest point, has a total area of about 2.5 ha, but only about 0.14 ha provides suitable habitat for this skink. This species is dependent upon the seabird colonies on the island and is subject to population fluctuations from about 250-600 individual lizards. The movement of silver gull colonies into areas where the skink is living on the island has recently led to the rapid decline of some lizard colonies.

Pedra Branca skinks are a long-lived species. They mature at about 6-8 years of age and can live at least ten years, possibly as long as 15 years.

Shipwreck



Hamish Saunderson's death was not the first life to be lost on the island. On 7 February 1973 the Nisshin Maru No.8, a Japanese steel fishing boat of 254 tons, in the charge of Captain Nakayama, was on its way to Hobart for a mechanical inspection.

The ship hit Pedra Branca and sank in deep water within a few minutes. In the ensuing confusion only one of the crew of 22, engineer Yoshiichi Meguro, managed to clamber onto the rocks and escape drowning. The fishing vessel "Walrus" rescued the survivor.

The Nisshin Maru No.8 disaster led to considerable improvements in communications between the various authorities that should have been able to mount a rescue operation many hours before this one was commenced. These included direct links between Japanese fishing boats and Australian shore stations, and correcting the inability of fishing vessels to directly contact warships and military aircraft, as they were unable to contact the Hobart emergency radio station which did not operate at night.

Diving

This area has been infrequently dived, by a few hardy divers prepared for the long boat ride in usually very inhospitable weather. As an open ocean area it is often visited by whales, dolphins and school fish. It also has a reputation as a popular hunting ground for White Pointer sharks. It is unlikely that a diver would encounter one, but the risk still needs to be considered.

Most of the diving is on reasonably sheer rock walls. Cracks in the rock wall provide shelter for some brilliant marine life. There is a very nice crack right underneath the seal colony which is

packed with sea whips. Throughout the dive you will be buzzed by seals who enter and exit from the rock ledge above. There is also a large cave which cuts through the Southern third of the island. The entrance on the Eastern side is located in 30 metres of water. No-one has swum far into the cave because of the constant surge sweeping through the opening. Divers are buzzed by fish the whole time.



Photo Eric Fillisch

Once almost never visited, the area is also becoming more popular with game fishing charters. While Tasman Island is still the most popular charter spot, the attraction out here is the thrill of a unique location as well as the chance of catching couta, tuna and Stripey Trumpeter in relatively 'virgin' waters. Big Bluefin have become rare elsewhere, but they are enough of a drawcard to get fishermen to tolerate the hours of seasickness usually a part of any trip to the shelf.

Hopefully it never gets too crowded with fishermen as there are some concerns that it can't take too much intensive game fishing, but the hostile south westerly swells will probably see the area remain a remote and lonely spot for the majority of the year.

Sidmouth Rock

Sidmouth Rock is an islet about 90 m in diameter, 2 km east of Eddystone and about 28 km south-east of South East Cape in Tasmania, Australia. It is frequently wave-washed and supports no land-dwelling life.

The Mewstone

Mewstone is an oval 13.1 ha island, composed of muscovite granite, with steep cliffs and a small flat summit. In 1773 it was named by Tobias Furneaux. It is part of the Pedra Branca Group, lying 12 km south-east of Maatsuyker Island, and 22 km off the south coast of Tasmania in south-eastern Australia. Its highest point is 150 m asl. It is part of the Southwest National Park and the Tasmanian Wilderness World Heritage Site and is known for its inaccessibility, unusual shape and abundant bird life.

There is very little flora due to the rocky nature of the island. What little plant-life there is grows in crevices in the rocks where soil has accumulated.

Recorded breeding seabirds include Fairy Prion (20,000 pairs), Silver Gull, Black-faced Cormorant and Shy Albatross (7,500 pairs). The Mewstone is the largest of only three Shy Albatross breeding colonies in the world, the other two being Albatross Island and Pedra Branca. Australian Fur Seals haul-out on small ledges. The Tasmanian Tree Skink is also present.

Mewstone and Pedra - Offshore Refuge for Shy Albatross

The reason why almost half the Shy Albatross juveniles do not survive long enough to breed is being revealed by tracking of the young birds.

Shy Albatross (*Thalassarch cauta*), are listed as vulnerable and only breed on three islands off the coast of Tasmania. They fly halfway around the world during the first four years of their lives before returning to their birthplace to breed.



Rachael Alderman is analysing satellite tracking data from 48 fledglings as part of her UTAS-CSIRO joint PhD program. While adult breeding-age albatross have a 96% survival rate from year to year, less than half of the fledglings will survive the three to four years at sea to return to their colony to breed. It turns out that the younger birds forage much further than older adults and are at more risk of being caught in hooks and the lines of fishing vessels operating in international waters.

It is estimated that there are up to 16,000 pairs of Shy Albatross that live on the three rocky islands off the coast of Tasmania – Albatross Island off the north-west coast and the Mewstone and Pedra Branca.

One of the most surprising discoveries is that fledglings from each of the three islands have unique foraging regions, which puts some colonies more at risk than those that do not venture as far from Australia's coastline.

Of the three populations, Albatross Island shows the most restricted foraging range and the highest survival rate, with juveniles from this population foraging mainly in Bass Strait and the nearby highly productive shelf waters off the coast of South Australia.

Birds from the two southern populations, Pedra Branca and the Mewstone, also forage in the waters off South Australia. However, they have further to travel to get to these productive waters and, as a result, they appear to have lower chances of surviving through the first few weeks post fledging than do Albatross Island birds.

The juveniles from these two islands are also more likely to venture into international waters. One individual from the Mewstone was tracked flying west across the Indian Ocean to forage in waters off South Africa – travelling 10,000 kilometres in less than one month. Band return information suggests this is relatively common behaviour.

Ms Alderman said rates of seabird bycatch in South African waters are alarmingly high. Identifying new albatross foraging ranges will help educate international fishing vessels to introduce measures to reduce the risk of hooking albatross.

Ecology solutions sometimes run birdwatching trips to the island. Some photos and an account of their travels can be found on http://www.ecology-solutions.co.mau/pedrabranca_Jul08/index.htm





Part of the Bird 'Haul' from a recent expedition

Species // Date	28th	29th	30th
Great Albatross sp.	1 (1)		
Wandering Albatross "Snowy" (<i>exulans</i>)		1 (1)	
Royal Albatross (Northern, <i>sanfordi</i>)		1 (1)	
Black-browed Albatross sp.		1 (1)	
Shy Albatross (vast majority <i>cauta</i>)	c120 (c800)	c150 (c80)	c150 (c80)
Grey-headed Albatross			2 (1)
Buller's Albatross	8 (3)	c10 (5)	c20 (11)
Sooty Albatross	1 (1)		
Light-mantled Sooty Albatross		1 (1)	14 (2)
Giant Petrel sp.	6 (2)	c5 (1)	1 (1)
Southern Giant Petrel	1 (1)	2 (2)	2 (2)
Northern Giant Petrel		1 (1)	1 (1)
Cape Petrel (<i>australe</i>)		5 (3)	
Fairy Prion			3 (2)
Shearwater sp.	5 (2)		
Sooty Shearwater	4 (2)	8 (2)	3 (2)
White-headed Petrel			2 (1)
Great-winged Petrel (<i>macroptera</i>)			2 (1)
Common Diving Petrel	c120 (c90)	2000+ (496)	-600

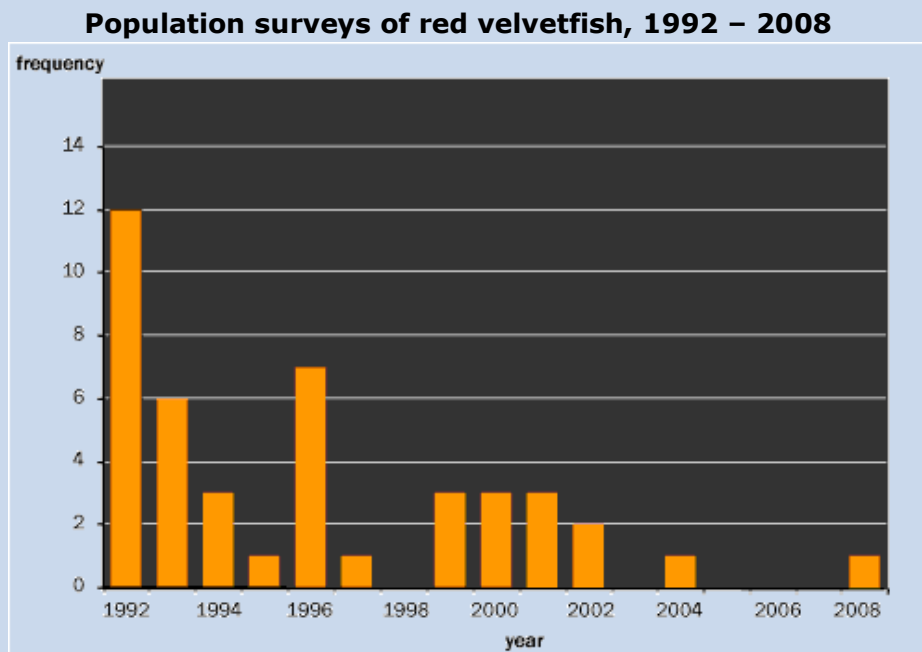
Critter Files

Velvetfishes

There are few members of this largely tropical family of fishes in Australia. Only two species are found in Tasmania. The family are known for their small size and cryptic appearance and they like to hide in reef vegetation, under rocks or in rock crevices, or in rubble, coral or coralline algae.

They like shallow waters that are easy to reach, or net and this may make localised populations susceptible to decline from impacts like netting. Their habitat can also be badly affected in some areas by sedimentation, pollutants, trawling, dredging and climate change.

Local scientist Graham Edgar has stated that there are some indications that populations of Red Velvetfish might be in decline. This is based on some recent survey data. The reasons for any decline are not clear, although the loss of Giant kelp (probably due to climate change) is considered significant.



Source Edgar, G. In SOE Report

Red Velvetfish, *Gnathanacanthus goetzei*

photo ; Parks Vic website

This species is broadly distributed across southern Australia (N.S.W. to W.A.). The Red Velvetfish is slow-moving and easily caught, which makes populations potentially vulnerable to exploitation, including for the aquarium trade. There are records of the species as bycatch in some commercial fisheries and it is also taken incidentally by anglers and spear fishers.



The red velvetfish is the sole member of the family Gnathanacanthidae. This fish is red all over, and instead of scales, its skin is covered with small tubercles, thus the name. All of its fins (except caudal) are large and spined. The spines are venomous, and can inflict painful wounds. The mouth is also large, and there is also a fleshy pad just above the upper jaw.

Red velvetfish are more active at night, when they hunt crab and octopus on the sea floor. The fish grows to 30 cm in length.

Velvetfish are believed to regularly shed their skin to get rid of algal and bacteria growths that build up on the skin because of their largely sedentary existence.

Velvetfish, *Aploactisoma milesii*

The Velvetfish is recorded in Australia's temperate waters from Coffs Harbour, New South Wales, south to Tasmania and west to Shark Bay, Western Australia. Lives in depths from 3 to 30m and is well camouflaged.

The Velvetfish lives between rocks and sponges or partially buried in the sand in coastal bays and estuaries of temperate Australia. Its camouflage, colouration and body form means it is usually missed more than it is seen.

The Velvetfish has thick skin and a velvet-like appearance. The lateral line along the side of the body has variously developed knobs and filaments. The species has highly variable colour from grey to cream or brown, with purplish mottling. It grows to 23 cm in length.



Early Explorers and their Observations

Abel Janszoon Tasman

Ok, so the last time you heard about European explorers it was High School in the 1970s and you were getting hit with a ruler for misspelling their names (or at least I was). These days the "explorer's" voyages are 'uncool' and associated with colonialism, greed, genocide and all that other nasty stuff.

I'm going to try to sex them up by noting their useful marine observations of 'unspoilt' Tasmania and also by revisiting their quaint peccadilloes and glorious failures.

We will start with the earliest of the European tourists, also arguably the most inconsequential. Tasman stayed in Tasmania for only three days. As a scientific or trading voyage it was a non-event, but he charted a safe track around the southern coast of Australia and encouraged other navigators to follow.



In the latter part of the 16th and early part of the 17th centuries, several Dutch navigators accomplished great feats of navigation, establishing a vast trading empire in the East Indies (Indonesia) for the private monopoly company, the Dutch East India Company (VOC).

At age 40, Abel Tasman had completed ten years of voyages and fighting in the service of the Company. He had proved himself resourceful when faced with hardships and danger.

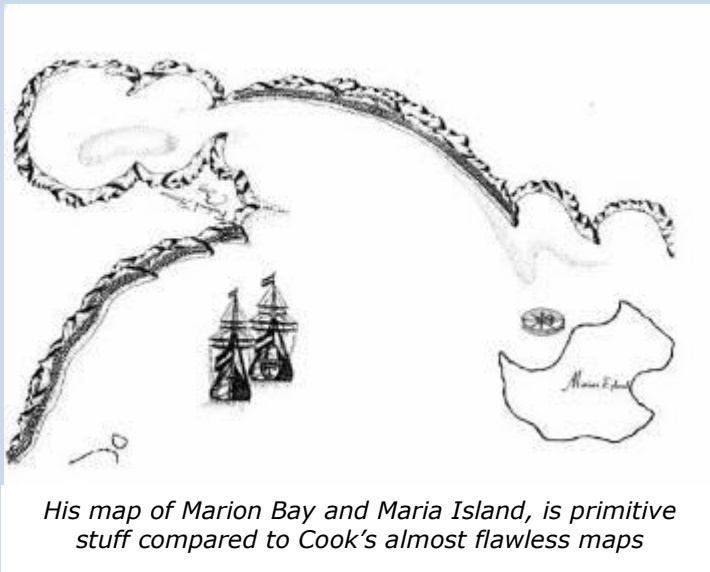
The Dutch were interested in the trading possibilities of the "Great South Land", which had not been fully explored. Between 1512 and 1542, Portuguese ships had seen the northwest coast of Australia and these discoveries were vaguely indicated on some early charts. For a number of years few suitable vessels could be spared for exploration. The first Dutch discoveries on the west coast of Australia were accidental.

Governor-General of the Dutch Indies, Antony van Diemen, set things in motion. In 1639, Van Diemen dispatched an unsuccessful expedition to search for the supposed "golden island", east of Japan, which was undertaken by Quast and Tasman. Crew casualties were horrific. No luck, then maybe the "Unknown South Land" might be a new Peru, rich in silver and gold. At that time a good pilot (navigator) was more important than the captain. In 1641 he wrote: *"We are very desirous to make discovery of the South Land. Moreover, we have kept here in the harbour idle, as much to his vexation as to our own, the renowned pilot Frans Visscher, whom we intend to employ for the discovery of the South Land; however, this shall, as we hope, be effected once for all"*. The expedition was to be under the command of Abel Tasman, *"who is very eager to make the exploration"*.

By 18th November 1642 they had passed Nuyts Land (Great Australian Bight), the furthest known part of the South Land. On the 24th November, they sighted land, which they called

Antony van Diemen's Land, after the Governor-General. This landfall was somewhere to the north of Point Hibbs, on the West Coast of Tasmania. Mounts Heemskerck and Zeehan (named after his ships) were charted to the north-east. After standing off for the night, they next day they approached within one Dutch mile (four English miles) of Point Hibbs.

Rounding South West Cape they sailed along the south coast. Tasman named the outlying islands after members of the VOC council of India. Passing between Pedra Branca and the main, and rounding the Friars, Tasman was caught in a violent gale, which drove the ships out to sea. He named the large bay, Storm Bay.



His map of Marion Bay and Maria Island, is primitive stuff compared to Cook's almost flawless maps

Rounding Tasman's Island on the 1st December, he came to an anchor off Green (Visscher Island), near Cape Frederik Henry on Forestier's Peninsula. Next day Pilot-Major Visscher was sent in the Zeehaen's longboat through the Narrows to explore Frederik Hendrik (Blackman Bay).

"at the extremity of the said point they had seen large numbers of gulls, wild ducks and geese, but had perceived none farther inward though they had heard their cries; and had found no fish

except different kinds of mussels forming small clusters in several places."

They noted watering points, which were poor; signs of natives, who seemed primitive; timbers that might be useful for ship repair; plants that might safeguard against scurvy; and general navigational information.

On the 4th December, Tasman weighed anchor, intending to sail northwards along the coast and take in water. The wind was unfavourable and being unable to hold the land, the ship's council (it was all very democratic in Dutch ships) resolved to stand away to the east. After naming Maria Island, Schouten Island, and Van der Lyn Island (Freycinet Peninsula), he took his departure from "a high round mountain" - probably St. Patrick's head, or St. Paul's dome. He then sailed to the west coast of the South Island of New Zealand.

The obsession with profit meant that the Dutch contributed little to our understanding of the early Tasmanian environment other than some well-known place-names. No-one on board had anything like scientific skills.

Tasman later searched unsuccessfully for the Torres Strait. In 1648 he was given a fleet to attack the Spaniards. This mission went terribly wrong and at one point Tasman was accused of getting drunk and treating one of his sailors in a "barbarous way". He was removed from public office. He soon retired from company service and became a wealthy Batavia merchant.

Surviving Dutch Place names

- De Witt Island, after the De Witt family, a wealthy noble family of republicans opposed to a Dutch monarchy.
- Maatsuyker Is, after a prominent member of the VOC in Batavia and supporter of the voyage
- Pedra Branca, after a similar looking rock off the coast of China earlier named by the Portuguese.
- Boreel Hd near the Friars, after a prominent member of the VOC in Batavia and supporter of the voyage.
- Tasman Is, why not after all that effort!
- Cape Frederick Hendrick, after a Prince of the House of Orange, covering his bases after naming another island after a republican.
- Maria Island, after Maria Van Aelst, wife of Anthony Van Diemen, neutralise the hubby's anger for not finding gold by flattering his wife.
- Schouten Island, after Justus Schouten a prominent member of the VOC in Batavia and supporter of the voyage. He is now a bit of a gay icon as 2 years later he was caught performing 'unnatural acts'. He had powerful friends, but rather than repent and ask for mercy he showed no remorse and was burned at the stake.

Little Known Facts No. 1



Beards do not provide protection from the 'Bends'

The Man who Menaced Hobart



Nobuo Fujita joined the Imperial Japanese Navy in 1932. He became a pilot in 1933.

After his Hobart flight, Fujita continued as an Imperial Japanese Navy pilot, mainly in reconnaissance duties. He even took part in a small bombing raid on the USA West Coast.

Things then went very badly for Japan and its air forces were decimated. In 1944, he was transferred to the training of kamikaze pilots. He survived the war but had a younger brother who perished.

After the war he opened a hardware store, and later worked at a company making wire. He died peacefully on September 30, 1997, at the age of 85.

WHAT'S ON in April - May 2011

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.

How to help us get the message out

We are asking people and organisations to help circulate the newsletter. Please **ACTIVELY** distribute Marine Life amongst your interest group, friends and colleagues so we can get the message out there, or give us email contacts (after asking your people for any objections to release of email contacts) so that we can distribute it for you.

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, its 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/marinelifeph>