

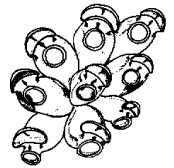


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### **Introduction**

Reef Watch is off to a flying start this summer, with several clubs commencing their training and joining the "Adopt a Reef" program, and our regular clubs getting back in the water to do some monitoring after a frustrating winter. The program has received a huge boost with the signing up of Steve Leske as a Reef Watch instructor. Steve will be doing the majority of the training during a busy summer leading up to and beyond the Marathon Dive on March 13<sup>th</sup>.



We've also been busy out of the water, with an informative, enjoyable and well attended identification workshop in October, and a public talk on reefs by Dr Hugh Kirkman at the Great Southern Dive Expo (reports next issue).

Half a dozen Reef Watchers spent a week in December surveying Blue Groper around Lower Eyre Peninsula - the fourth in a series of expeditions led by Dr Scoresby Shepherd (report next issue).

By the end of summer we plan to have an intertidal monitoring program in place, and there is also good news for our Reef Monitoring program with support coming from a well funded Reef Health program being run by the Government over the next few years. Paul Hastings has joined us at the Conservation Council as a Coast and Marine Facilitator.

This is obviously the last newsletter of the year – a bit shorter than usual but there will be a bumper edition in late January. For now, Merry Christmas and a Happy New Year from Reef Watch!

## **New Reef Watch Instructor**

Reef Watch now has a second instructor to ensure we can get through a busy summer of training and survey dives!

Steve Leske is a very experienced diver with more than 1000 logged hours, and has more than 400 certifications, including naturalist, fish ID, PADI AWARE and underwater photography specialties. Steve has an excellent knowledge of SA marine life and dive sites and is already doing a great job on training dives.

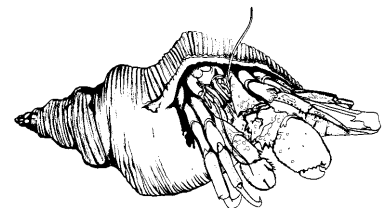


## **Reef Watch and the SARDI Reef Health Program**

Many of you may have read about the \$1.3 million program called "Reef Health" that was recently launched by the Government, and you may also have wondered how that fits in to Reef Watch.

The "Reef Health" program is being run by the South Australian Research and Development Institute (SARDI) from its South Australian Aquatic Sciences Centre at West Beach in collaboration with other agencies that have a role in managing marine habitats, including the Conservation Council of SA, which houses the Reef Watch program.

Reef Watch divers have been doing a good job collecting scientifically valid data for a number of years now, and are able to collect data in certain places more often than trained scientists. However, there is still a need from time to time for more comprehensive assessments by scientists (the last time was at the end of 1999).



The new "Reef Health" program will establish and validate a set of standardised reef monitoring protocols tailored for use in SA for both comprehensive assessments by trained scientists and to a certain extent by community divers. It is likely that the methods will be very similar to the existing Reef Watch methods. A study will be done to validate these methods in order to give them appropriate credibility. These methods will then be used to obtain comprehensive baseline information for reef environments along much of South Australia's coastline.

In the words of Minister Rory McEwin, the program will then "facilitate the continued development of community involvement in marine monitoring, and will be done in partnership with the Conservation Council of South Australia's already successful Reef Watch program". Outcomes will include advanced training tools such as videos.

Therefore, in summary, the Government "Reef Health" program will be giving valuable support to the community based "Reef Watch" program by giving credibility to its monitoring methods and assisting with the development of the program. It will also be gathering data on reefs, more comprehensively but less often than Reef Watch, and the two sets of data will be able to be compared.

### **New Coast and Marine Facilitator**

Paul Hastings joined the Coast and Marine team at the Conservation Council of SA, as the new Coast and Marine Facilitator.

His key responsibilities are to prepare background materials and provide updates and analysis of coast and marine related policy and legislative processes for the Adelaide Mount Lofty Ranges Natural Resource Management Group (AMLR NRMG), and the broader community. Paul will also support community engagement, and increase community awareness of and action with regard to coastal and marine issues.

Paul worked on the Reef Watch a couple of years ago and was the President of the Australian Marine Conservation Society (AMCS) Adelaide Branch. Paul has extensive experience in coastal and marine issues in SA, combining high-level policy design and implementation with work on the ground with diverse community groups. He's also a scuba diver with professional experience in NSW and the Philippines.

If you would like to know more about what is going on with coastal and marine issues not directly relevant to Reef Watch, get in touch with us and we'll add you to Paul's email/mail list to ensure you are kept up-to-date with the latest information.



Note: if you currently receive this newsletter in the post and would prefer to receive it by email then let us know at [info@reefwatch.asn.au](mailto:info@reefwatch.asn.au). If you do not have access to the internet and need help obtaining any on-line reports or other information we refer to in this newsletter, call us on 8223 5155 and we'll mail you a hard copy.

## **Assessing the Species Diversity of SA's Intertidal Reefs**

*by Agnes Cantin, member of the Reef Watch Steering Committee and Flinders Uni postgraduate student*

Until recently, South Australia's intertidal biodiversity has been given little attention compared to the eastern shores of Australia. Yet knowing what we have is essential for the effective management and conservation of environments like rocky shores and intertidal reefs. The research which I conducted as part of my honours work used surveys along rocky shore sites on the Fleurieu Peninsula (Yilki Beach, King Head, Lady Bay, Marino Rocks, Blanche Point and Fishery Beach), and also at sites on the Yorke Peninsula (Goldsmith Beach, Foul Hill, Stenhouse Bay, Gym Beach, Daly Head and Groper Bay).

I used a technique called rapid biodiversity assessment. Essentially, this method attempts to assess species diversity using less surveys, and hence less time, than more comprehensive surveys. This method has been successfully tested on NSW shores. I used different taxonomic groups for this research, including molluscs (shellfish), echinoderms (starfish, brittle stars and urchins), and algae, as well as micro-invertebrates (these organisms are smaller than 3mm and require a microscope for identification and are mostly dominated by molluscs). In total I identified 60 molluscs, 23 echinoderms, and 60 algal species, along with 175 micro-invertebrate species. I found a high degree of rare species (both species with restricted habitat range and also those found in low numbers).

I also tested the usefulness of using biodiversity surrogates (where diversity in one group of species is used as a proxy for diversity in other taxonomic groups). For example, the diversity of molluscs has been used elsewhere to indicate the likely diversity of echinoderms, algae and micro-molluscs. Using surrogates speeds up surveying, and eliminates the need for identifying all organisms found to species, a very slow job. Previous studies in NSW have found positive relationships between the diversity of molluscs and echinoderms and various other groups; however, my study found no such positive relationships. Further work is needed, and this may include identifying other species or groups to try as surrogates.

My study showed no significant difference in species richness between the two peninsulas, although the species compositions were different (species composition is the group of species that make up a community, while species richness is the total number of different species found). These results identify the need for sites to be protected on both peninsulas to represent the different community compositions found.

My study is only a preliminary observation of the diversity of species found on SA rocky reefs. More investigations are required to understand these systems. There is scope for the development of a community based intertidal monitoring program, which will increase our knowledge of SA's intertidal rocky reefs and inform decision-making.

The intertidal zone is a fascinating environment to explore with a variety of amazing organisms to be found, and of course you don't have to plunge in 12°C water to have fun!!



### *Sea Wisdom*

*Dance to the movement of a sunlit ocean  
Love to the stillness of its depths...*



### **Feral or In Peril News**

We've run out of our identification slates, so there will be more printed in the new year, with a few changes to make them easier to use and to provide more information about *Caulerpa* species in particular.

The *Feral* part of the program is all about prevention of sea pest invasions. We need as many alert pairs of eyes in the water as possible, with several problem pests right on our doorstep. One such pest is the North Pacific Sea Star, which has invaded Tasmania and Victoria.

The efforts of hundreds of volunteers over six months to eradicate the Sea Star from their local waters on Victoria's Gippsland coast saw them recognised with the Minister for the Environment's Award for Coastal Custodians from a field of 30 nominations (Reef Watch didn't nominate for the award but will in future years).

The \$5000 award will assist with future monitoring work and hopefully there will never be a need to eradicate the seastars from this area again. We hope to do it the other way around, and prevent a major infestation before it happens!

## **Want to get involved in Reef Watch?**

For diving or snorkeling activities, visit our website, follow the quick link to "Next dive".

If you want to get involved as a volunteer in our committee, administration or development work, contact Reef Watch at the Conservation Council, 8223 5155, [info@reefwatch.asn.au](mailto:info@reefwatch.asn.au).

Again, thanks to Pamela Newland for her work on this newsletter, as well as to our various contributors. Pamela, it is good to have you back from Oxford!

## **Sea stories...**

This is a sea story with a slight difference, but without the sea, it couldn't have been written...

On a recent trip to Cornwall, England, I visited the castle ruins of Tintagel – a wonderful place of mystery and romance, a possible place of King Arthur and Merlin during the Dark Ages, a magical place of old, old stones – a protective fortress on a dramatic headland above a wild Cornish sea.

I first felt the sense of approaching a special place as I walked along the dirt road down to the sea and the castle ruins. A sense of atmosphere, the road bordered by shrubs and trees and protective hills. A busy stream hurried past – disturbing the plants on its banks, disappearing into mysterious undergrowth then emerging suddenly to race on and into that waiting sea. Everywhere a sense of Merlin...

A special moment when I first saw the castle ruins on the top of the nearby headland and wondered who looked down on other travellers? what guards shouted that travellers were approaching the castle? who informed Arthur?

Then I reached the steps leading to the castles where Arthur had his glorious tale of romance, magic and chivalry. I imagined Arthur coming to meet me, to show me over his beloved castle fortress in a dangerous land, to gaze over the harbour far below and watch merchant boats being unloaded of wine jars, crockery and glasses from exotic lands. Across the waters, and still part of the harbour, the land juts out into the sea –it looked like a mighty dragon's foot, unafraid of the waves which attacked its outstretched claws and rushed into the hollows formed by its heavy body...

We entered the main island courtyard. The place was busy with court officials, Arthur's attendants, monks and travellers and the sounds of hospitality being prepared in the Great Hall.

Through the arch and past the collection of houses and store-sheds. Then on to the tiny chapel with its inherent peace and stillness against the outside forces. And **always**, the sense of the sea – vast, a natural defence against attack, sheer cliff walls dropping into the water - formidable, impossible.

On the top of the headland we entered the small courtyard for the ladies and their ladies-in-waiting. The air was sweet with perfumed flowers and the sounds of stringed instruments as we left them to their pleasantries. I was aware now of the absolute silence – no sea sound here – a vast, endless stretch of sleeping ocean – not bothered with land dragons out here.

And so we continued our walk past the buildings where a ceremonial feast was being prepared, crossing over the land bridge to the southern part of the castle, above Merlin's sea cave, and to the noise and business of knights and horses preparing to ride out. I saw the guards at their posts - those who would have first noticed my approach along the road far below.

Now my visit was over. Arthur saw me safely back to the northern castle entrance, where I bade him farewell as he returned to the business of protecting his land from endless Dark Age treachery...



Tintagel – a place of magic and awe, but mostly a place of the sea – always the sea...

### **Forthcoming Dives**

For further details check the website ("Next Dive" quick link) or call 8223 5155, let us know if you plan to come.

Sunday 2 <sup>nd</sup> January	Port Noarlunga, 9.00am
Sunday 16 <sup>th</sup> January	Carrickalinga (meet in South Bay car park near toilet block), 10.00am
Saturday 22 <sup>nd</sup> January	Port Noarlunga, time to be determined –
Sunday 23 <sup>rd</sup> January	Port Noarlunga, 10.00am
Saturday 29 <sup>th</sup> January	Location and time to be determined
Sunday, 13 <sup>th</sup> March	MARATHON DIVE, all day at Port Noarlunga.

Reef Watch currently receives most of its funding from the Adelaide and Mount Lofty Ranges Natural Resource Management Group (AMLR NRMG)



Mount Lofty Ranges & Greater Adelaide  
INRM Group

A number of other organisations have provided some funding or in-kind support, including:

DEH



PADI Project Aware



PIRSA



SARDI



City of Onkaparinga



Dolphin Diving



Underwater Sports



The Reef Watch website is [www.reefwatch.asn.au](http://www.reefwatch.asn.au)

If undeliverable return to:

Reef Watch  
Conservation Council of SA Inc.  
120 Wakefield St  
Adelaide 5000



Conservation Council  
of South Australia Inc