

Blue Swimmer

Newsletter of the Friends of Gulf St Vincent

Issue 4 – November 2005

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Welcome to the Blue Swimmer

Welcome to another edition of the Blue Swimmer.

The dozen colourful sailing boats that I can see leisurely sailing along the coast as I write this are a timely reminder that the 'beach' season is almost upon us and as you head to the water for a surf, dive, sail, swim, to drop a line or just enjoy the amenity value of our beaches, take a moment to ponder how sustainable this resource which so many South Australians enjoy and rely upon is, and who is looking out for those wondrous creatures and marine communities in the deeper parts of the Gulf.

For example if our seagrass populations are still declining how long can our long sandy beaches and foredunes withstand the wave energy during storm surges? This is probably a pertinent question and one which the Adelaide Coastal Waters Study has been addressing. For those of you who managed to attend the "Know more about your Gulf" community forum, which the Friends group recently hosted, you will know that this was a pressing issue at the forum as the researchers delved into the question of "What killed our seagrasses?" Was it input of suspended material, freshwater, nutrients or pollution into the marine

environment? If you want to know more then read the short summary of the forum below.

The Friends of Gulf St Vincent have been actively working to protect our precious resources in the Gulf over the past few months.

We had a small win with the Development Assessment Commission (D.A.C) placing a condition on the approval for the dredging operations at Outer Harbor, which required a management plan for the aggressive weed *Caulerpa racemosa*. Preliminary surveys found only *Caulerpa racemosa* in the dredging area. Prior to the commencement of dredging, a trench was dug across the Port River upstream of the swinging basin to trap any fragments of *Caulerpa* coming down the river. This material is removed by suction, and placed in settlement ponds on shore. *Caulerpa* from the swinging basin and channel has been removed by an extensive trawling program. Observers on the dredge report that when the spoil is dumped in the centre of the gulf, no fragments of *Caulerpa* have been sighted. Lets hope the plan is working, and that the spoil will not further spread this invasive weed.

The Annual General Meeting of the Friends of Gulf St Vincent, albeit somewhat brief, was held following the "Know more about your Gulf" community forum. All office bearers were re-elected although we are still short on general committee members so if you would like to become more directly involved in the Friends activities let us know.

After reviewing the financial situation of the group at the AGM it was voted to raise our yearly membership from small \$5 fee to an equally small fee of \$10 that covers both group and individual

membership. This nominal fee will help contribute towards administrative costs. Membership fees cover the financial year so if you haven't paid fees since June 2005 please renew your membership or if you are not a financial member and would like to become one contact, Nick Crouch on (08) 8372 6887, Nick.Crouch@tv.tafe.sa.edu.au)

Two small grants were provided to the group to assist with purchasing a colour printer. So if you are a member you should be receiving this in hard copy it should be in glorious colour. The other grants was from 'Friends of Parks' for a total \$480 to prepare banners, flags or windsocks.

If you have not received this via mail and are a member please contact Nick (details below) to ensure your contact details are up to date.

Quiz Night: are you up for a question and answer session?

Question: Where can you test your general knowledge, learn a few interesting facts about the gulf, win great prizes, do something for two great causes and have a great night out?

Answer: The Henley & Grange Residents Association & Friends of Gulf St Vincent Quiz Night.

Question: How do you join in the fun?

Answer: Organise a group of 8 to 10 and we will reserve your group a table. If you would like to attend but cannot round up an entire table, let us know and we will introduce you to friendly, compatible and smart people for the night.

Question: What will the profits support?

Answer: Profits will go towards supporting both the Friends of Gulf St Vincent and the Henley & Grange Residents Association, who campaign for residential and environmental issues in the western suburbs of Adelaide.

Question: Where can I book a table?

Answer: Bookings are essential and can be made by contacting one of the people below:

Paul Laris: paul.laris@internode.on.net 83562274

Jim Douglas: jdouglas@picknowl.com.au 83560302

Nick Crouch: nick_crouch69@yahoo.com.au 0427000109

The Gulf's most memorable Quiz Night

Date: Friday 18th November

Time: doors open 7:15pm for a 7:30pm start

**Venue: Reedbeds Community Centre, Phelps
Crt, Fulham**

**Cost: tickets \$10/ head
BYO Nibbles and drinks**

Know more about your Gulf

The Friends of Gulf St Vincent hosted a successful community forum on the 22nd October at SARDI Aquatic Sciences Centre at West Beach with support from the Adelaide Coastal Waters Study and over 40 enthusiastic members of the public who came to hear the speakers and join in discussions.

Proceedings began with Lynette Crocker who welcomed us to Kurna country and asked us to join in homage to the land and its people. Lynette spoke of the Tjilbruke Dreaming trail, which follows the positions of 7 springs along the coast. The trail is evidence of the Kurna Tappa Iri (regional agreement), which can be aptly translated to "the path home".

Mayor John Trainer (City of West Torrens) gave what he called the "modern" welcome to the forum & neighbour Mayor Harold Anderson (City of Charles Sturt) and emphasised "water consciousness" in these councils. Given the development of a town on what was once the historic Reedbeds, a wetland which cleansed water inshore of the Gulf, he flagged the importance of utilising surface runoff.

David Ellis presented an overview of the Adelaide Coastal Waters Study, which was undertaken in the area between Port Gawler and Sellicks beach (excluding Port River/ Barker Inlet and the Onkaparinga as these areas are already subject to intensive study).

The study, which has been running for 3 years, focused upon the issues of water quality degradation and the impact upon seagrass and subsequent seabed instability.

The study looked at not only the influx of sediment, nutrients, freshwater and pollutions from surface water (ie runoff and treatment plants) inputs into coastal systems, but also groundwater and atmospheric inputs.

David emphasised that the ultimate aim was for the study to lead into management actions.

David Ellis also presented work on behalf of Jeremy Wilkinson, which drew on meticulous extraction of records held mainly by SA Water, dating back as far as 1945, to try and assess the ratio of sediment inputs from water treatment plants compared with surface water runoff.

Interestingly, although not surprisingly, the graphs he presented showed a parallel between seagrass loss and human population growth in the Adelaide region.

Since the late 1990's the loss has been relatively stable, probably because the majority of losses are nearshore and most of these seagrasses have already gone, compared with many other places in the world where seagrass loss generally starts offshore and works its way in.

This wastewater discharge audit provided some interesting results. Wastewater treatment plants tended to contribute more nitrogen than stormwater inputs, however most of the turbidity was derived from stormwater. The good news was that nitrogen from these treatment plants was reducing. For example Bolivar had experienced a 72% decline in Nitrogen and 48% reduction in Phosphorus since 1998.

David also flagged potential solutions to stormwater and treatment plant outfall such as increasing roof capture of rainwater, detention ponds/ wetlands, reducing the area of impervious surfaces and aquifer storage and recovery which is a growing field of interest so long as groundwater is not subsequently contaminated.

Peter Petrusевич spoke on the distribution of suspended matter in the Gulf waters using satellite observations. He showed how the plume of suspended matter varies seasonally in the Gulf. It appears that land discharges do not carry very far offshore, but oscillate north-south along the Adelaide shoreline. Losses of seagrasses offshore are therefore unlikely to be due to this sediment as the plumes dissipate before it reaches the middle of gulf and are more likely the result of the seabeds being stirred by wave action through local winds, which is perhaps exacerbated by the inshore seagrass losses.

Simon Bryars brought our attention to what killed the 5200ha⁺ of seagrasses, which has occurred predominately in the nearshore shallow areas and at the old Pt Adelaide outfall zone. His group studies effect of varying coastal water quality including reduced salinity, increases in turbidity and increases in nutrients upon the two major genera of seagrass in the Gulf – *Posidonia sinuosa* and *Amphibolis antarctica*. Surprisingly both were resilient to pulses of freshwater and recovered when put back into saltwater, indicating that short term reductions in salinity doesn't affect adults of either species, seedlings were slightly more susceptible to low salinities, and fruits of *Posidonia* are more susceptible again given that the fruits float which is where freshwaters tend to stratify.

Effects of turbidity are still being tested experimentally, by blocking light to test plants for varying periods, but it is not clear that even

extended seasonal reduction in light would kill mature plants.

The effect of nutrients is also an area being investigated. Direct responses (eg exposure to ammonia) are limited and it is believed that the effect of nutrients may be more significant in an indirect way. The team has been testing how increasing nutrients increases the growth of epiphytes (small plants & animals living on the seagrass) off the coast at Stansbury. The theory is that the increase in nutrients promotes epiphyte growth to such an extent that plants are literally weighed down and fall over or they block the light getting to the plant reducing seagrass leaf biomass and hence plant vitality. There is strong support that the increase in nutrients results in greater epiphyte growth however responses in epiphyte growth will be observed in the future to provide more conclusive evidence.

Peter Pfenning filled in the gaps with what has been happening at the Port River in terms of nutrient inputs into the water. Results showed that Penrice was the major source of nitrogen – almost double the load coming from the Bolivar sewage treatment works.

Peter ran computer simulations of distribution and diminution of nutrients from these sources through the Barker Inlet/ Port River system. Generally, significant nutrients fetch back into the southeastern portion of the Port River. This emphasises the need to reduce nutrients at source and a plan for this should be available in May of next year.

To wider our perspective, Captain Walter Stuart spoke on shipping needs in the Gulf. He started with a poem sourced from the old 'seagull report' (you should be able to source this from local libraries in SA – the full title is 'Working together to reduce impacts from shipping operations: ANZECC strategy to protect the marine environment'. 1996, Australian & NZ Environment & Conservation Council ISBN 0642 19436X)

The Surfie & the Greenie
'Two-thirds the surface of the earth,
Is occupied by the sea:
Our planetary rubbish tip
It will too easily be;
Unless we try to keep it clean –
And that means you and me.'

Nigel Wace

Capt. Stuart spoke about the needs and response plans to minimise all environmental impacts of shipping in Australian waters and tie in environmental knowledge with shipping training.

He sprinkled his talk with interesting facts, such as South Australia being one of the first jurisdictions to make provision in legislation to manage ballast water discharge to minimise risk of introduced marine pest species.

Jim Douglas took up the wider issue of community expectations and the need for a more proactive and not reactive approach in protecting our marine environment. To build up to this he cited the many studies on environmental degradation off the Adelaide coast, and further afield.

Jim suggested that some of the inaction was because results of good science were not being set into the planning system. He pointed out that there was much local lore, from long-time residents, particularly fishers, that could be tapped into.

He also noted global problems, such as climate change, could have local impacts within the lifetime of many of us.

To inject a positive note, Jim appealed for a tighter Planning Act, a proactive EPA and genuine consultation with affected communities.

Finally the forum concluded with community discussion on issues impacting upon the Gulf and how we should address them.

One of the key themes was how to avoid future "Barcoo's" (i.e. when community forewarnings are ignored come to fruition to the detriment of all). Again the point of becoming proactive was raised and need to set clearly defined goals or targets and tackle unsustainable development proposals

from the onset rather than once specific proposals have already gained momentum. Other comments were raised about the importance of educating future generations and using elected members to get particular issues and points of views higher up the chain and generating political will so that other community members do the same.

Ian Kirkegaard

Beach combers column: - Get to know the Lacy Bryozoan

The Gulf is full of peculiar life forms lurking in the depths of the ocean, a place which very few have the fortune of visiting. A few of these bizarre or beautiful critters end their days washed up on our beaches and whilst their colour and life may have faded by the time they reach the shore, they still give us an insight into the "rainforests of our oceans" and the diversity such marine ecosystems support.

One of these gems is the Lacy Bryozoan (*Phidolorpora labiata*), which is very pertinent to Gulf St Vincent because it is the bio-icon of the St Vincent Gulf bioregion.

Bryozoans are actually colonies of marine organisms called Zooids, these are tiny animals about 1/2mm in size, which are housed within protective tube shapes made of either calcium carbonate or chitin. To feed the Zooids extend their tentacles through the tiny openings in these structures. There are a wide range of Bryozoans with roughly 5000 species world wide. The Lacy Bryozoan lives up to its namesake with the colony of zooids forming a delicate and unique structure.



Josephine's Journal: upcoming events around the Gulf

To add your event or workday to Josephine's Journal, contribute an article or snippets of information contact Mel on (0418 802 816, melanie-rees@lycos.com).

Future events:

| When | What | Further Details |
|------------------------------------|--|---|
| November | | |
| 18th | Quiz night – Reedbeds community centre, Fulham | Contact Paul 83562274, Jim 83560302 or Nick 0427000109 |
| December | | |
| 1 st – 10 th | National Coastcare Week | |
| 4 th | Marion celebrates our coast Heron Way Reserve, Hallet Cove | elizabeth.sykora@marion.sa.gov.au 11.30am to 4.30pm |

