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Conservation Council of South Australia Inc

Reef WATCH South Australia

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Feral or In Peril Clean Up Day - a success!

Clean Up Australia Day became a Feral or In Peril day for Reef Watch this year.

Project Officer, Steve Leske, worked hard to contact many dive clubs and galvanise them into action with their Feral or In Peril (F/P) slates.

Dives were held not only in metropolitan Adelaide but also on both the Yorke and Eyre Peninsulas. The Yorke Peninsula did particularly well with four sites being covered including Port Victoria where the Narrunga people were snorkelling down 3-4 m to pick up rubbish, whilst also looking for invasive species.

Reef Watch volunteer Amy Ide and Eyre Peninsula Natural Resource Management coastal and marine management officer Kerryn McEwan with some of the garbage hauled onto the Port Lincoln jetty.

On the Eyre Peninsula the focus was the Port Lincoln jetty with the most astonishing array of items being hauled up including lots of clothes, glass bottles, tens of metres of garden hose, car tyres, a shopping trolley, fishing line, a mobile phone and even a scooter.

In Adelaide, Reef Watch volunteers gathered at Brighton jetty to undertake Adelaide's first introduced marine pest 'clean-up' by the community. Having first consulted with PIRSA's Biosecurity section, Steve had their permission to attempt to remove the prolific European fan worm (*Sabella spallanzanii*) growing on the jetty piles. Steve has developed a technique using a plastic bag to prevent parts of the worm from floating off into the surrounding environment. "We probably removed about two thirds of the introduced worms" Steve said. He is now interested to see how long it will take the worms to repopulate the cleaned jetty piles.

"If there are any dive clubs diving at Brighton jetty, let us know if you see new European fan worms growing on the cleaned jetty piles." he said. "This is what Reef Watch is all about, collecting and recording data for environmental management."

Steve also stated that he would like to see this become an annual event in the Reef Watch calendar, both cleaning up our marine environment, but at the same time monitoring for Feral or In Peril species.

Reef Watch recently held an intensive weekend on the Eyre Peninsula where three events happened all at once: some Feral or In Peril training in Elliston, a teacher workshop in Port Lincoln, and some subtidal training in Whyalla. We hope we can get back over there later in the year.

Negative reporting

Don't forget - Reef Watch is encouraging divers and snorkelers to report negative dives. If you do a dive and **do not** see any of the Feral or In Peril species, please report this online, where there is a special negative reporting link on the F/P reporting page. We hope to get more of these over time and build up a picture of where introduced pests are absent. This type of reporting will also show where 'in peril' species are absent, which is useful information for environmental management.

Given the recent discovery of a European fan worm on Kangaroo Island, where they have not previously been recorded, it is essential that the community keeps up their 'neighbourhood' watch for introduced marine pests, especially in more pristine waters such as those of the regions.

Restoring coastal landscapes

On 19th April, 12 people from diverse backgrounds attended a Coastal Biodiversity workshop and visited sites such as Newland Head Conservation Park, Normanville Dunes and Carrickalinga Dunes. Participants included local residents, Coastcare group members, Alexandrina Council and Greening Australia staff and NRM Coastal Officers. The day was a great success, with everyone enjoying the scenic sites, great weather and the varied information provided.

The facilitators at Newland Head Conservation Park, Pam and Ron Taylor, discussed their site and walked the group through their biodiversity restoration projects along the cliffs within the park . Their success in restoring over 50 hectares of land through soil stabilisation, revegetation and constant maintenance demonstrated the achievements that can be made through dedication and persistence. Projects highlighted measures to reduce the impacts of kangaroos and rabbit populations, innovative stabilisation techniques and habitat restoration for the threatened Firetail.

Harry Chambis from 'Learner Centered Learning' explained bushcare techniques that could be utilised on coastal sites. Jill Pearson, Coastal Project Coordinator for the Adelaide and Mount Lofty Ranges Natural Resources Management Board, spoke about the Fleurieu's unique vegetation communities and how critical management of these communities are as some are pushed to the edge of their limits.

The group also visited the Normanville dune blowout restoration area and viewed the South Shores development, providing some excellent ideas for further protection. We then stopped at the Carrickalinga North Reserve site where revegetation works began in June 2007.

Everyone left the day with further knowledge and skills about coastal protection and restoration techniques and the importance of protecting the fragile remnant vegetation we have left.

From: Mary-Alice Ballantine, Coast, Estuary and Marine Officer for the

New jellyfish species from SA

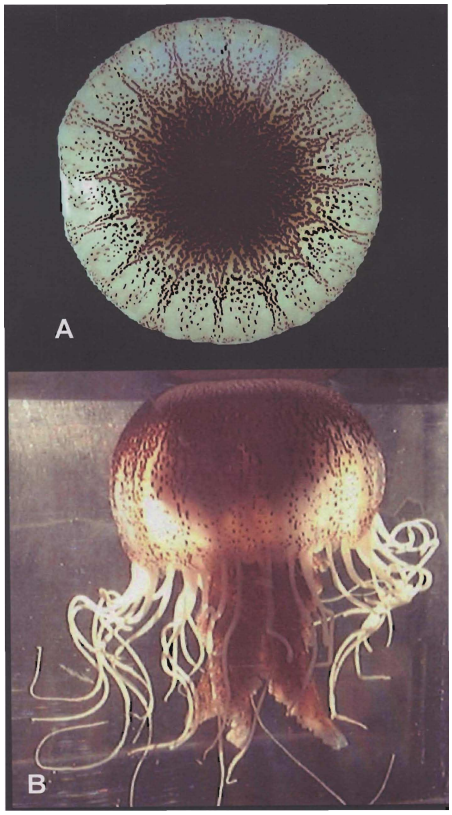
By Dr. Scoresby Shepherd

Recently (2008), Lisa Gershwin and Wolfgang Zeidler have named and described two new jellyfishes, long known but never properly described, from local waters. One of them is *Chrysaora southcotti*, named after the late Dr Ron Southcott, who for many years studied the stings of jellyfishes. This species is illustrated in Plate 14.5 in the book 'Marine Invertebrates of Southern Australia' Part 1. It is common in summer in Gulf St Vincent, and interestingly juvenile mosaic leatherjackets and tiny trevally often live under the jellyfish's umbrella, probably stealing food, which the jellyfish catches in its tentacles. This jellyfish can give a painful sting.

The other species is *Desmonema scoresbyanna,* known in SA only from the Coorong and Encounter Bay. In fact, I found the first specimen in 1969 sheltering baby hardyheads and trevally under the bell, while collecting jellyfishes and the fish that often lived under the bells of jellyfish in a symbiotic relationship, for Dr Southcott to study. The species is quite common in summer to autumn off Encounter Bay, but nothing is known of its colour in life or stinging ability, so there is a great opportunity for Reef Watchers to obtain pictures, and add to our knowledge.

I recall that Dr Southcott, when he wanted to determine a jellyfish's stinging ability, used to first rub its tentacles over the inside of his wrist (which is quite a sensitive area), and if that didn't work, over his lips (which is even more sensitive), and then photograph the swelling that resulted ! (The mark of a truly dedicated scientist !)

The species has warts on top, with clusters of about 15 small tentacles, four gonads in pleated bag-like bundles, and a squarish mouth. This species was named after my wife, Anna, and me, because (according to the paper) "we opened our house and pantry to wayward biologists" - i.e. to Lisa Gershwin, one of the authors who described it, and who often visited us. But authors, with mischievous tongue-in-cheek , often name species after characteristics the person shares with the species. I am wondering what characteristics of mine she could possibly have had in mind !!



Chrysaora southcotti by Lisa Gershwin.

Rare find at Port Hughes jetty

From Matt Hoare, Reef Watch volunteer

In early January this year, my partner Sonja and I headed to Moonta on the Yorke Peninsula for a few days to unwind. With the ideal sunny conditions and offshore breeze, we decided to go for a rec dive at Pt Hughes Jetty. I had dived this jetty previously, and it was probably one of the best dives I had ever done. The array of rare, unusual, and colourful marine organisms encountered was spectacular with species of pipefish, nudibranchs, numbfish and soft corals to name a few. With some idea of what to expect, we were excited to say the least. Armed with our underwater digital cameras, Sonja and I took the plunge and set off to see who could find and capture the most stunning pictures of sea critters.

Photo: Matt Hoare

Straight away we found a cluster of spotted pipefish, *Stigmatopora arugs*, camouflaged within the brown algae *Scaberia agardhii* under the entry point stairs. Further along I came across a funky pink nudibranch, *Verconia verconis*, which looked exactly like the sponge upon which it was feeding , *Darwinella sp.* About 3/4 along the jetty at a depth of 5 m I noticed Sonja had discovered something, and seemed to be in an almost trance like state. She motioned for me to come over, and pointed at a jetty pylon stump protruding from the sand. The stump was covered in the turfing algae *Lobophora variegata* and had an array of encrusting invertebrates growing on it. A ringed toadfish hovered close to the stump, but it couldn't have been that as we'd seen them on many occasions. I couldn't make out what she was signalling at, but whatever it was had to be small. With my face almost buried in the pylon I saw it. A tiny shrimp about 3 cm long, with the most dazzling display of colours I had ever seen. It looked almost as if its shell had been tie-died. We both knew that this shrimp was a rare find, as we had never encountered it on any of our dives, heard about it, or seen pictures of it. Ecstatic, Sonja and I took turns in taking photos of the find. This turned out to be quite challenging, due to its small size and the fact that we didn't have any macro lens attachments. After about 20 tries each at getting a shot in focus, we continued the dive buzzing with excitement and anticipation of what we had discovered. On the surface Sonja explained that she only noticed the shrimp, as it was crawling on and most probably cleaning the skin of the ringed toadfish. This behavioural observation would later prove useful in its identification.

When I returned to work the following week, I sent a copy of our pictures to academics that specialise in identification of these marine invertebrates. They were elated, and identified it as the rarely seen and even less photographed cleaner shrimp *Periclimenes aesopius*. They explained it is known mainly from SA, but might also occur in south west WA. Other locations within SA where it has been sighted are Pt Victoria and Victor Harbor. Little is known of its ecology, but it is usually associated with prominent features like a large sponge or jetty pile, which they use as a base to set up a cleaner station. They are also generally found in small social groups. There is another southern form from shallow water, *P. carinidactylus*, known to date only from feather stars in NSW and SA. Many of the *Periclimenes* are tropical, occurring on soft corals and anemones. However, there is even a deep-water species (to more than 1 km deep) found on gorgonian corals off the south Pacific and Tasmania.

Our observations and photographs had proved useful in understanding more about the ecology and distribution of this fascinating creature. If anyone has seen these shrimps or anything rare and unusual during their experiences with the marine environment, I would encourage them to get in contact with Reef Watch. You never know how important your discovery could be. Thankyou to Scoresby Shepherd, Janine Baker and Sandy Bruce for their help in classifying this find.

Intertidal Program - initial results

The Intertidal Program (IP) was kicked off with an enthusiastic community group (which continues to date) at Aldinga Reef Aquatic Reserve. Since then, two other community monitoring groups have joined the program, collecting data at Lady Bay and Victor Harbor. Additional areas have also, on occasion, been surveyed and include Boston Reef, located near Port Lincoln, and Emu Bay on the north coast of Kangaroo Island.

Given the complex nature of intertidal zones with spatial and temporal variations coupled with the infancy of the program, data analysis had been limited, until now. So, finally, after many weekends in various weather conditions the initial results of all your counting, measuring and recording are here!

To date, a total of 171 individuals have volunteered their time to participate in the collection and recording of data, by attending 23 organised survey sessions. However, this figure is underestimated, as visitor surveys were incomplete. Most observations have been recorded at Snapper Point within the boundaries of Aldinga Reef Aquatic Reserve by a total of 112 community volunteers (Figure 1) attending a total of 11 survey sessions between spring 2006 and autumn 2008. Since that time 123 individual survey samples have been recorded at Snapper Point by an average of 10.2 community volunteers per survey session.

The most common survey technique used was quadrate surveys, which make up 43% of the survey techniques. Whilst Line Intercept Transects (LITs) made up 35% of the methodologies, the remaining 22% of data collected is done using time-search surveys.

A total of 18 out of 23 visitor surveys have been completed by volunteers and staff, yielding a documented usage of intertidal reefs by 346 visitors over the total time span. Of these visitors, Snapper Point has yielded a total of 249 visitors since 2006, of which 16.9% were children (<15 years). No visitor survey was completed for Emu Bay and not all visitor surveys have been completed at all sites, so although these figures are not conclusive, they provide a 'snap shot' of visitor usage.

The results have also revealed that of the types of activities visitors displayed, the majority (84%) were engaged in 'passive' activities, e.g. walking, observing, beach picnicking (Figure 2). It is encouraging to note that the more exploitative activities of collecting bait, actively searching, and rock turning and fishing were much less common (16%). In fact, your surveys revealed that there were no observations of collecting bait, fishing or rock turning recorded therefore this figure reflects visitors who were solely engaged in actively searching on the reefs themselves, recorded on one occasion with up to 11 people engaged in this activity at Snapper Point during the month of September.

Generally, taxonomic composition of shellfish species was similar on all reefs, although abundance varied. Compared to the common 'control species' (*Bembicium* spp), targeted species (*Turbo* and

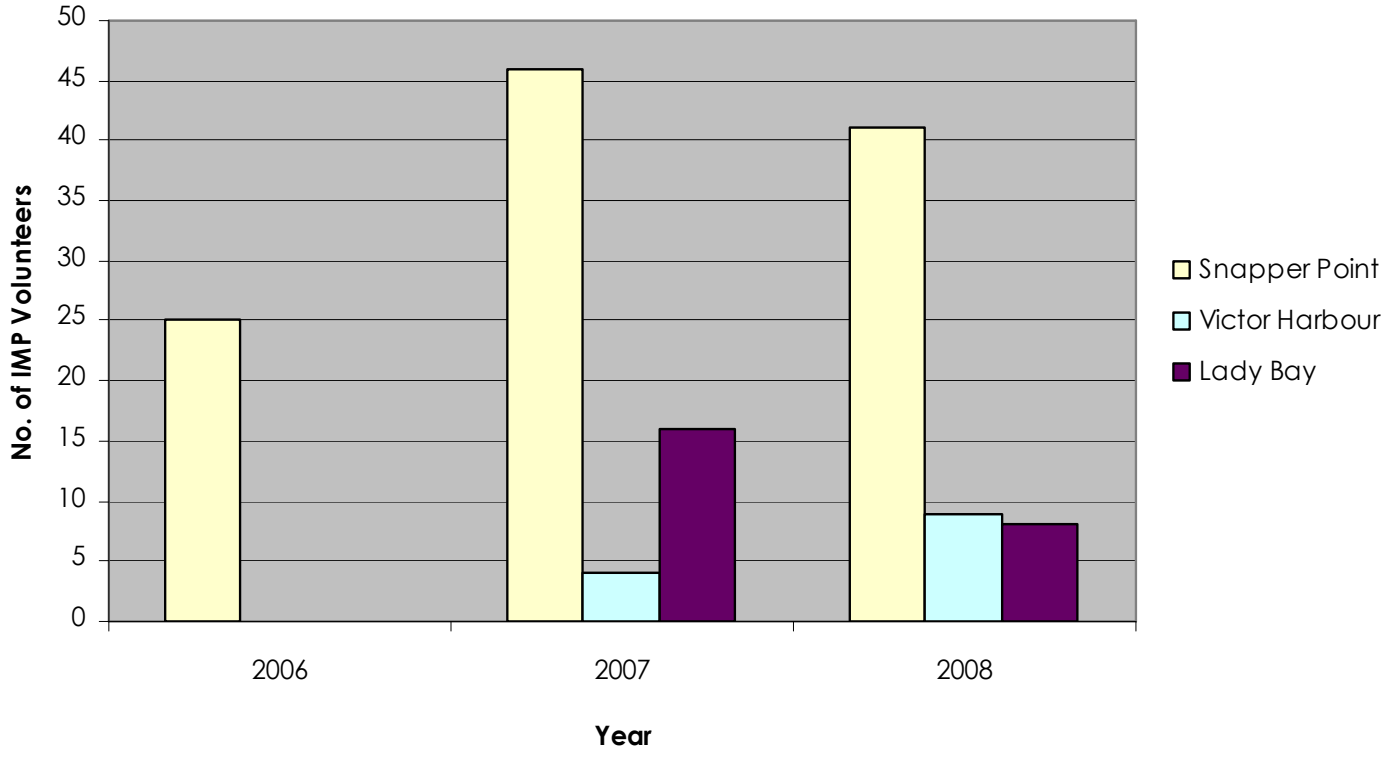


Figure 1. Shows number of IP volunteers between 2006 and 2008 at Snapper Point, Victor Harbour and Lady Bay.

Cellana spp.) were absent or rare in abundance (< 10 individuals) on all reefs. Indeed, considering Aldinga Reef Aquatic Reserve prohibits the removal of organisms it was here that *Turbo* and *Cellana* were absent. However, given that no observations were made of visitors collecting bait at any site, it is very difficult to conclude that the absence or rare abundance of these targeted species is the direct result of harvesting. At all sites, charismatic species were generally found to be low in abundance. However, the reef crab, *Ozius truncatus,* was common at all sites and results also indicate some temporal variation, with more crabs found on the shore in the warmer months. Interestingly, with this increase of crabs in summer, the results show a decline in *Bembicium* spp., which are prey for the reef crab.

Intertidal rocky reefs play an important role in the life cycles of organisms, as well as providing refuge and feeding opportunities. In addition, like the fringing coral reefs in the tropics, intertidal rocky reefs also help to reduce the impact of high-energy wave action to delicate coastal zones, preventing erosion of sandy beaches. However, these habitats are one of the most accessible marine environments to humans (and their waste), and with local populations increasing these intertidal areas are likely to undergo considerable anthropogenic change from pollution and harvesting of organisms.

This is why good ecological knowledge and understanding of human and natural impacts on intertidal reefs in South Australia are necessary. Such information will help towards improving possible management options for the government departments involved in the management of these habitats.

Therefore, your continued help is appreciated and crucial – so tell your neighbours, family, friends, and work colleagues about the work you are doing to help protect our intertidal rocky reefs because the more help we have, the more data we collect. And the more data we collect, the better informed we are about how best to manage these precious environments!

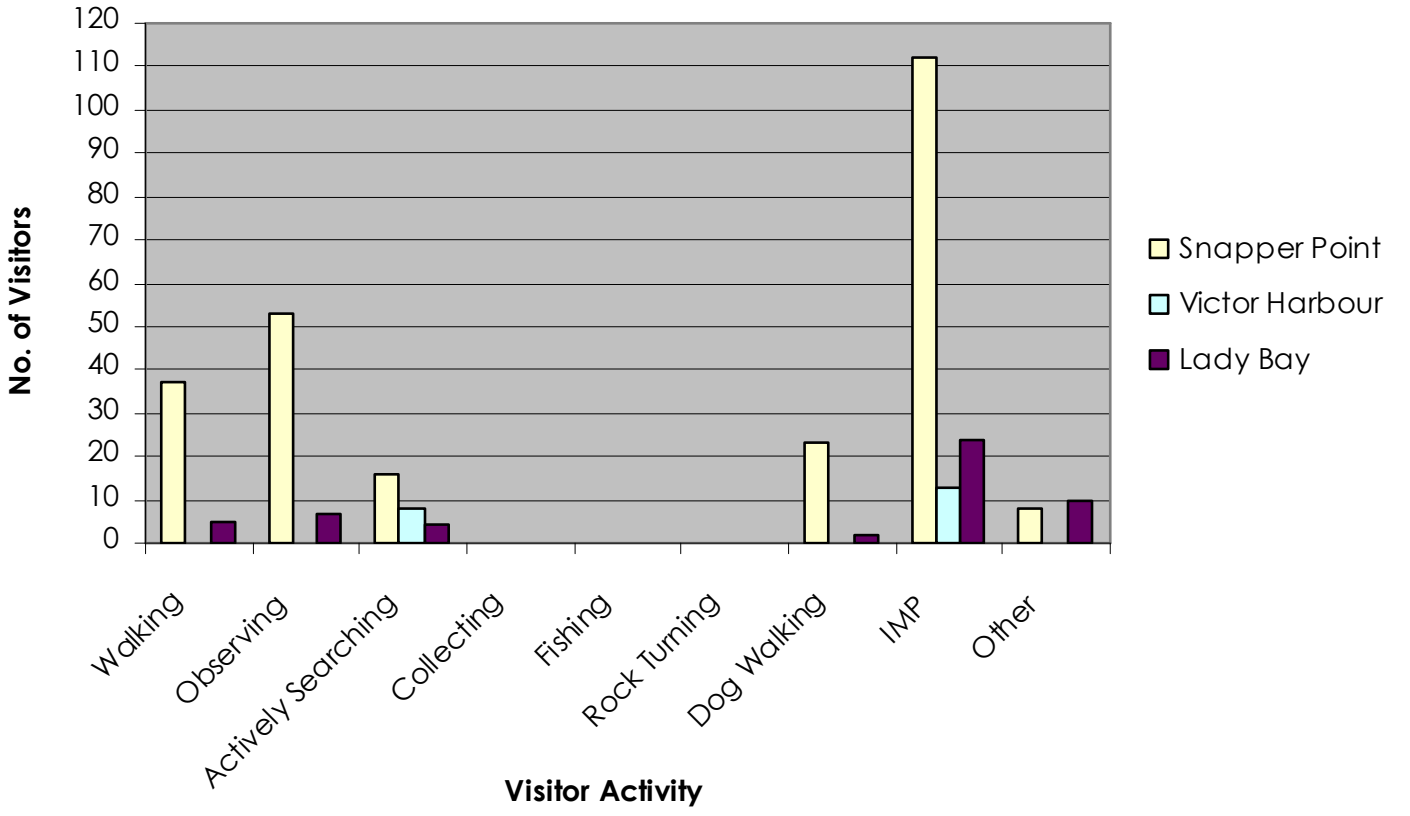


Figure 2. Types of activities that visitors displayed since 2006

Reef Watch finds feral fan worm on KI

On February 16 Reef Watch Project Officer, Steve Leske, trained 18 Kangaroo Island residents in the Feral or in Peril program at American River. The training started with a classroom session slide show detailing methods of identifying invasive species and their potential threats.

The group then looked at preserved specimens and samples of live native specimens for comparison.

After a short break it was time to do an in-water search around the American River jetty with a snorkeling group led by Steve and a scuba diving group led by Martine Kinlock, Coast and Marine Officer for the KI Natural Resources Management Board.

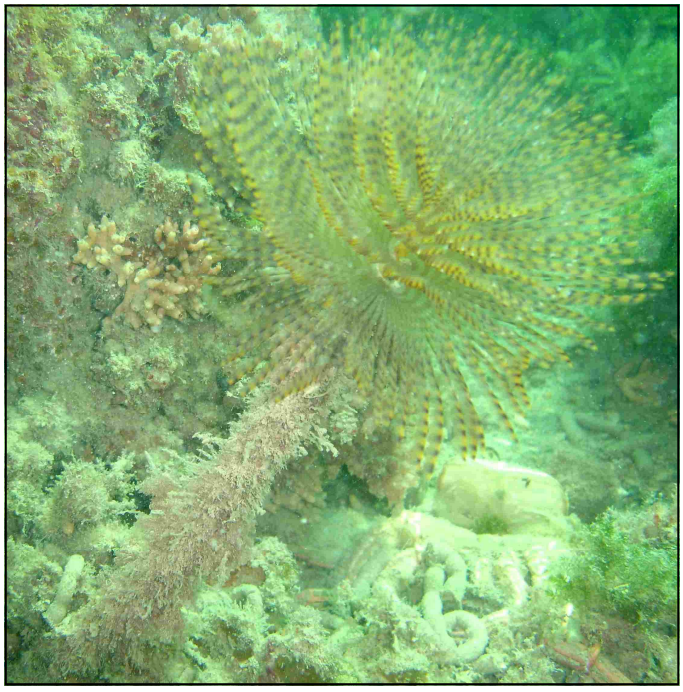
The enthusiastic snorkelers found a diverse range of native stars and other interesting animals such as a blue-ringed octopus but thankfully no invasive species from our slates.

The diving group covered the deeper part of the jetty as well as moving out into the channel and found several introduced mussels. Reef Watch have now trained over 50 divers, snorkelers and other marine enthusiasts in the Feral or in Peril program and have monitored sites in Penneshaw, Kingscote and American River.

Following the training Steve's wife, Petra Seitz, located a suspected European fan worm under Kingscote jetty the next day. Later that day Steve joined her for a dive, and photographed and removed the large European fan worm (*Sabella spallanzanii*). The specimen was positively identified by Thierry Laperousaz of the South Australian Museum who believes this is the first sighting of *Sabella spallanzanii* on KI, making this a significant Reef Watch contribution to marine pest management in South Australia.

If you would like to know more about the Feral or in Peril program visit our web site: www.reefwatch.asn.au

To organize a class-based training session for your dive club or community group write to Steve: info@reefwatch.asn.au

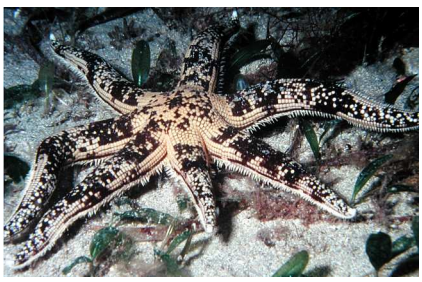


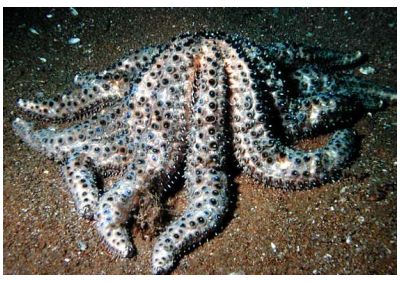
Probably the first European fan worm found on KI.

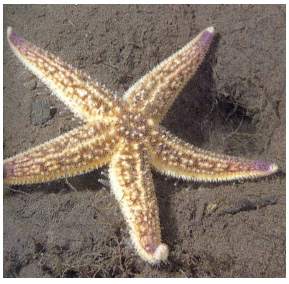
The KI trainees having a great time at American River.

Spot the introduced pest sea star!

Email me to see if you are right! alex.gaut@ccsa.asn.au

A 

B 

C 

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Report tagged pelicans please!

Pelicans are an obvious and popular component of our coastal fauna. Although they were scientifically described in 1824, we still know surprisingly little about them.

The occasional pelican breeding events in central Australia attract enormous media attention. But these events only occur every few decades, when heavy rains fill the lakes with water and make the deserts bloom. The industrial port of Outer Harbour, is home to one of only seven regular pelican breeding sites remaining in South Australia.

Dr Greg Johnston from Zoos SA and Flinders University has been leading a study of pelicans at the Outer Harbour breeding colony since 1990. In addition to studying many other aspects of pelican ecology, he and the Adelaide Zoo Pelican Volunteers have tagged 700 nestling and adult pelicans to find out more about their movement patterns.

Each tagged pelican carries a metal leg tag from the Australian Bird and Bat Banding Scheme, and a yellow Adelaide Zoo plastic wing tag. We place the bright yellow wing tags in a flap of skin at the front edge of the wing. The tag lays over the upper surface of the wing, and an individual black number is clearly visible against the yellow for some distance.

This young pelican was tagged as a chick near Adelaide in 2002. In 2003 a member of the public took this photo at Karadoc in New South Wales, providing valuable information on the movement patterns of pelicans.

To date we have reports of pelicans that were hatched near Adelaide traveling throughout south-eastern Australia. Tagged birds have shown that young pelicans travel with their parents for at least a year after leaving the breeding colony. They return as adults to breed themselves when they are young as three years old. Pelicans are long-lived. One captive bird lived for 53 years in a European zoo. They probably have shorter lives in the wild, with the record for a wild Australian pelican being 18 years.

The study relies on public reports of tagged pelicans. If you see a pelican with a yellow wing tag please make a note of the number on the tag, date and location, and what the pelican is doing, and report it to Adelaide Zoo (Ph: 8267 3255, or e-mail: greg.johnston@flinders.edu.au.au). Any information you can provide will help us better understand and preserve these charismatic, fascinating and beautiful birds.

Nautiguides - for fantastic dives

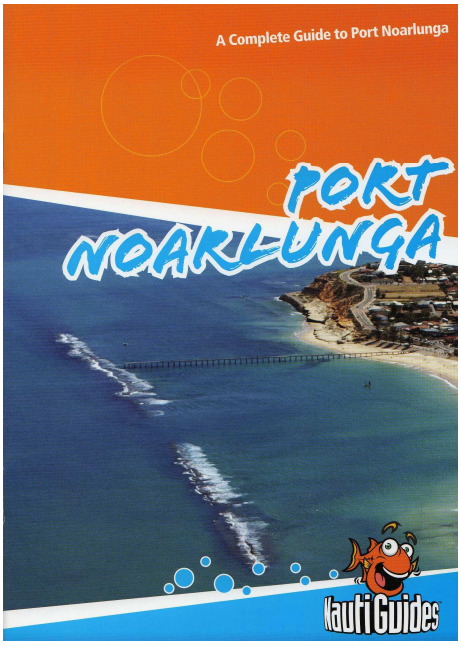
NautiGuides are a new range of guidebooks that are particular to individual dive sites around South Australia. They include a map of the site, some great images taken by local photographers, and contain many interesting and little known facts about the area, reef and inhabitants. The guides are designed to fit into your log books for reference, and offer the basic information needed to really appreciate your diving.

The website to accompany the guides is soon to be completed and is designed to work in conjunction with the guides, allowing divers to share information and experiences. The map allows everyone to pinpoint where their images are taken, and therefore the best places for others to search when seeking certain species.

NautiGuides are firm supporters of Reef Watch and any other conservation or research program, and are looking for local photographers to upload their pictures both for others to enjoy and to help compile an ongoing pictorial database of life at each specific dive site. Be assured that any images received by NautiGuides will not be used in any way without your permission!

The first NautiGuide for Port Noarlunga is already available in Adelaide dive stores, and an Edithburgh/Port Hughes edition at the beginning of June. A Whyalla edition featuring the cuttlefish phenomenon will also be on the shelves by the June long weekend in an effort to raise awareness of their plight.

If you'd like a copy either drop by your local store, or drop an email to Will at diving@nautiguides.com who is offering Reef Watchers a copy of the Port Noarlunga edition, including a map and a species ID slate, at the reduced price of just $10.



Keep an eye out for the website: www.nautiguides.com.

Many thanks to our generous sponsors and supporters

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Additional support is provided by the Eyre Peninsula, and Northern and Yorke NRM Boards.

Other supporting organisations include:

- Primary Industries and Resources SA via SARDI Aquatic Sciences
- Department for Environment and Heritage

Reef Watch also acknowledges the generous support of the diving industry for Reef Watch events.

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New wobbegongs in WA

Earlier this year two new wobbegong species were announced. Both were found in south west WA during a catch monitoring exercise by WA Department of Fisheries scientists between Green Head and Mandurah.

The new wobbegongs are the floral banded (*Orectolobus floridus*) and the dwarf spotted (*O. parvimaculatus*). Shark researcher, Justin Chidlow sent the specimens to Hobart for examination by Dr Peter Last, curator of CSIRO's National fish Collection. At first the floral banded wobbegong appeared similar the cobbler wobbegong (*Sutorectus tentaculatus*) but after a closer look, Dr. Last, found differences that indicated a new species.

The dwarf spotted wobbegong looked similar to the spotted wobbegong (*O. maculates*) but much smaller, at only 70 cm long, and was initially thought to be a juvenile. "On further examination it proved to be a mature male," said Dr Last.

This brings Australia's total wobbegong species count up to eight. Mr Chidlow said he was amazed the two species had not been identified earlier. "It's amazing to think that the new species have been present off our coast, but it's only now that they have been formally identified as separate and been added to the list of known wobbegong species" he said.

The colour of the floral banded species is mainly dark brown with yellowish blotches on the upper surface and white on the underbelly, whereas the adult dwarf spotted was a lighter yellowish brown with large white blotches on top and creamy underneath.