



Reef Watcher Production

Contributions welcome: intertidal@ccsa.asn.au
All contributions are subject to editing.
Deadline for next issue: 14th November, 2009

New start for Feral or In Peril Program

An update by new Project Officer Carl Charter

The Feral or in Peril Program (F/P program) is part of the award winning Reef Watch Program and now incorporates DragonSearch. The program started in 2002 and will continue with support from the AMLR NRM Board, PIRSA Biosecurity and the Australian Government Caring for our Country Community Coast Care grant. The F/P program advisory committee consists of members representing the AMLR NRM Board, DEH, CCSA and the community. The South Australian Museum has also been supportive in supplying specimens on long term loan.

The F/P program has been designed to enable recreational divers, anglers and boaters to help keep track of a number of marine organisms that are of special concern. As its name implies, the F/P program has been designed to identify introduced marine pests that are a potential threat to the marine ecosystem as well as local species that are of concern. A detailed database of angling, boat and dive shops has been developed with contact made with several to date. Carl has visited the Adelaide Boat Show, boat shops and several local fishing tackle shops and has been impressed with the level of

respect for, and knowledge of the marine and coastal environment of those working in industry. Business owners have been very supportive of marine education as they realise that sustainable recreation is important to the long term survival of their industry. Waterproof identification slates have been updated and an extra slate added with one new species of marine pest as well as several new native species that require further information to be collected. These slates are the perfect size to store in your tackle box or SCUBA BCD for those times you spot an unusual marine creature. These slates are free and can be found at all good boating, fishing and diving shops and clubs.

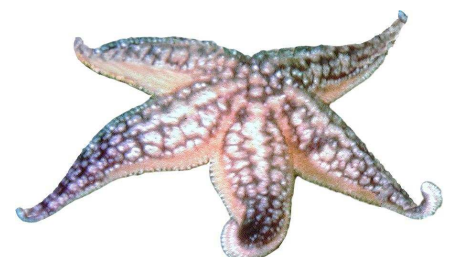
Carl will be travelling the state from late September onwards visiting clubs and shops to distribute the ID slates and to give presentations and run identification workshops. If your club would like a copy of the slates and/or want to know more about Feral or In Peril species and how to ID them then contact Carl to arrange a visit. Community members are also invited to attend Reef Watch's 'Marine Creatures Expo' on November 1st where there will be a Feral or In Peril display and experts

on hand to answer your questions. The South Australian F/P program was funded along with a new sister program in Victoria. The Victorian partnership makes good sense as there is potential for feral species to be transmitted from Victoria to South Australian waters and vice versa. A volunteer exchange project in early 2010 will allow Victorians to learn from South Australians and South Australians from Victorians about the feral species encountered in their own state.

For further information and/or slates, contact Carl Charter (Monday and Tuesday) on 0417 808 419 or feralperil@ccsa.asn.au



Western blue groper



*Red alert species:
Northern Pacific seastar*

Shark Watch SA

By Chris Ball



Cobbler wobbegong

Sharks first appeared in our oceans over 400 million years ago – around 200 million years before the dinosaurs! Having evolved into their optimum form some 70 million years ago (around the time the dinosaurs disappeared), many shark species have remained largely unchanged since. Despite this, we still have very little understanding of the behaviour, reproduction, life expectancy and other life history characteristics of many sharks - or their close relatives, rays and chimaeras. Sadly, what we do know is that only a few decades of human activities have caused many species to be threatened with extinction. The numbers of several sharks are estimated to have been reduced by up to 90%! These include several larger sharks that perform the all important role of top predator. Their extinction could have devastating effects on marine ecosystems.

The major threat to sharks comes from commercial fishing, both as targeted species and as by-catch. Worldwide, it is estimated that over 70 million sharks are killed each year – increasingly for their fins which can fetch over \$300/kg on Asian markets. Fins exported from Australian fisheries represent over 10,000 shark deaths a year.

In the waters off South Australia there are eight species of sharks that have been assessed by the International Union for Conservation of Nature (IUCN) as “facing a high risk of extinction in the wild” i.e. Vulnerable. (See www.iucnredlist.org) These are the: white shark; shortfin mako; porbeagle; basking shark; school shark; smooth hammerhead; whitespotted spurdog;

and thresher shark. The coastal stingaree has been assessed by IUCN as “facing a very high risk of extinction in the wild” i.e. Endangered. Many other species, including the spotted wobbegong, whose numbers are in decline, are “close to qualifying for or likely to qualify for a threatened category in the near future” i.e. Near Threatened.

Despite these assessments, of the species listed above, only the white shark, basking shark and school shark are protected at the commonwealth level under the Environment Protection and Biodiversity Conservation Act 1999. Only the white shark is protected at the state level under the Fisheries Management Act 2007 and only the school shark has limits on the size or number that can be caught in SA waters.

Shark Watch aims to help prevent the extinction of these magnificent, ancient creatures by increasing the protection they receive, including reducing the impacts on them, and by contributing to our very limited knowledge of them. This will be achieved through:

- encouraging and supporting users of the marine environment to report sightings of the above sharks and rays. This will involve establishing a sightings register, developing identification sheets and promoting the program through local and regional networks and media;
- increasing community awareness and understanding of sharks and rays, the threats they face and the actions needed to reduce those threats. Activities will include establishing a website providing information sheets and links to other relevant sites, a

newsletter, workshops and media articles;

- supporting community involvement in actions to provide protection for threatened shark and ray species, including listing under Commonwealth and State legislation and providing input to relevant government planning and policy development and review processes; and
- encouraging and supporting increased co-operation and co-ordination between conservation, research, industry and government organisations involved in conserving and managing sharks and rays.

You can help **Shark Watch** achieve its aims by reporting sightings of the sharks and rays listed above, taking on the role of a local contact person for sightings reports in your area and/or volunteering as a project assistant doing research, preparing community education materials or undertaking general office tasks.

For more information, or to get involved in **Shark Watch**, please contact Chris Ball at carcharias42@gmail.com or at the Conservation Council of SA on 8223 5155.



Shortfin mako



School shark



Smooth hammerhead



Great white shark



Whitespotted dogfish

Intertidal Monitoring

If you would like to learn more about rocky shores, their health and how to protect them come and join the *Reef Watch Intertidal Monitoring Program*. In the coming months we will be visiting several regional areas. *Reef Watch Rangers* has also been developed specifically for primary and secondary schools.

For further information please contact: Agnès Cantin intertidal@ccsa.asn.au or (08) 8223 5155

Upcoming monitoring sessions:

Snapper Point, Aldinga	Time to meet	Where
Saturday 19 th Sept	10 am	Snapper Point carpark, the Esplanade, Aldinga
Sunday 15 th Nov	10 am	
Lady Bay, Normanville		
Sunday 20 th Sept	10:30 am	Heading south after Normanville, turn right at the Lady Bay sign on Main South Road, not far after the second bridge
Saturday 14 th Nov	9:45 am	
Sunday 18 th Oct	10 am	

Tracking the movements of western blue groper

By Simon Bryars

The western blue groper (*Achoerodus gouldii*) is an iconic fish species that inhabits reefs of southern Australia. However, their life history characteristics make them intrinsically vulnerable to fishing and consequently one of the most effective conservation tools is likely to be no-take ('sanctuary zone') marine reserves. A series of 19 multiple-use marine parks, that will include sanctuary zones, are currently being developed in South Australia. For the sanctuary zones to be effective, it is imperative that they are sufficiently large to include the home ranges of adult fish. Acoustic telemetry is a proven method of determining the home ranges of reef fishes.

Consequently, a team of researchers led by Dr Simon Bryars from the Department for Environment and Heritage has commenced an acoustic tracking study on western blue groper at a remote site on north-western Kangaroo Island.

During early 2009, an array of six acoustic receivers (or listening stations) was set-up adjacent to a 1 km strip of coastal reef, and 15 adult western blue groper (690-1120 mm total length) were then captured, fitted with internal acoustic transmitters, and released within the study array. The transmitters emit a coded signal every few minutes, and whenever a tagged fish swims within range of one of the receivers, it is detected and logged by the receiver. Receivers need to be downloaded periodically to collect the data, and the first download of receivers that occurred in April 2009 had almost 200,000 detections!

Preliminary results indicate that the groper are highly site-attached. Examination of individual receivers indicates that spatial usage of the reef by each fish was non-uniform, and in many cases the distribution of detections was related to the location of fish capture – which suggests that some fish have well-defined home ranges. There has also been a distinct day/night pattern whereby

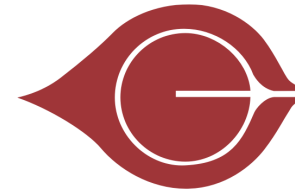


Tagged blue groper, KI

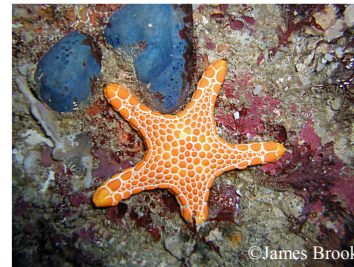
fish are regularly detected during the day but rarely detected at night. It is most likely that the fish are hiding in caves and crevices during the night where they can't be detected by the receivers. A further four receivers have been added to extend the array and the study will continue until October 2009. The final results will then be used to inform the zoning process within South Australia's network of marine parks.

Project leader: Dr Simon Bryars, Department for Environment and Heritage, GPO Box 1047, Adelaide, SA, 5001. Phone: 0411 276 006.

Co-investigators: Paul Rogers (SARDI/Flinders University), Dr Charlie Huvneers (SARDI/Flinders University), Ian Smith (Zoos SA), Nick Payne (Adelaide University), Dr Bryan McDonald (DEH).



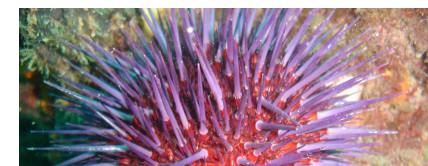
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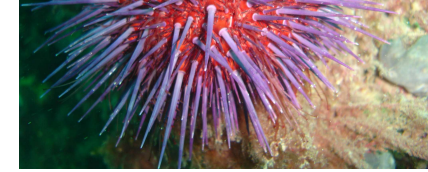
Marine Creatures Expo

Many of SA's leading marine biologists and educators have volunteered their time to teach you more about seaweed, fish and invertebrates.

When? Sunday, 1st November, 10am – 4pm



Where? SARDI Aquatic Sciences Laboratories,
Hamra Ave, West Beach (next to minigolf course).



What?

- Gain identification skills through “hands on” experience with live and preserved creatures in small groups guided by experts
- Talks by marine biologists
- Learn about introduced marine pests

FREE including lunch and refreshments

T-shirts and other items for sale & free handouts

**RSVP Essential please, info@reefwatch.asn.au or 8223
5155**



Government of South Australia
Adelaide and Mount Lofty Ranges
Natural Resources Management Board
Primary Industries and Resources SA



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Quiz Night

Friday, 25th September, 7 for 7.30pm

(finished by ~10.30pm)

**An audio-visual extravaganza
of fun, frivolity, fiction & fact for the
diving community**

*There will be something for everyone – you do not need
to be a marine biologist, diver or involved in Reef
Watch. Loads of fantastic prizes!*

Location: Goodwood Community Centre
(access off Florence St., behind the library)

Cost: \$10 (\$5 unwaged) pay on the night

Catering: BYO food and drinks

Bookings essential - numbers are limited: include table name, captain and contact details.

Email: info@reefwatch.asn.au or phone 8223 5155.

<http://www.reefwatch.asn.au/quiznight.html>



Government of South Australia

Adelaide and Mount Lofty Ranges
Natural Resources Management Board



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'Water for Good' is Great for Kelp

Close collaborations between researchers and policy-makers create opportunities for evidence based policy initiatives for a healthier environment.

Associate Professor Sean Connell and his team from the University of Adelaide have been working with the Department for Environment and Heritage, with support from the Coast Protection Board, to better understand the effects of nutrients and sediment discharge in kelp forests around the southern coast of Australia.

The discharge of both stormwater and wastewater has directly led to the loss of our iconic kelp forests in favour of algal turfs. These kelp forests are important habitats for fish and other marine organisms and the loss of these habitats has implications for the whole marine food web in the Gulf.

This problem will be exacerbated by global warming which will result in the acidification of ocean water. However, if nutrient levels are reduced and kept low, Associate Professor Connell's research suggests that healthy kelp forests can re-establish and be maintained even in the face of climate change.

"These research results provide us with the evidence needed to implement policies that can guide the management of human activities affecting the marine environment and the restoration of habitats" says Patricia von Baumgarten, Principal Marine Policy Adviser from the Department for Environment and Heritage.

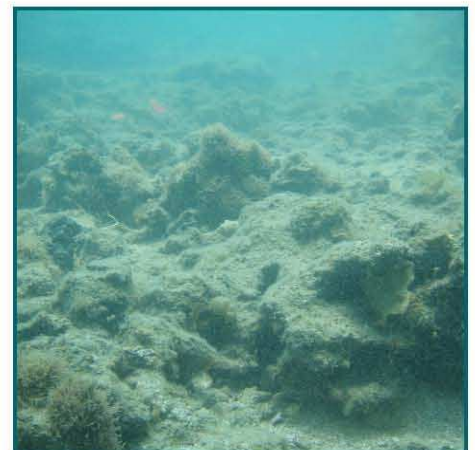
Recent research has shown that initiatives such as the upgrade of Bolivar, Glenelg and Christies Beach wastewater treatment recycling plants have significantly improved the condition of water being discharged into the Gulf by reducing the amount of nutrients in the water. The Glenelg to Adelaide Parklands Recycled Water Project and the implementation of the Adelaide Coastal Water Quality Improvement Plan, currently being developed by the EPA, will further contribute to better water quality in the Gulf.

South Australia recycles more waste water and stormwater than any other state in Australia. The new 'Water for Good' Plan sets a target of recycling 75GL of stormwater (currently <10GL) and 45% of wastewater (currently 30%).

"The current projects the State Government is investing in, and the new targets for stormwater and waste water recycling outlined in the Water for Good plan will have a measurable, positive impact on the health of marine systems in St Vincent's Gulf" says Associate Professor Connell.



Healthy kelp forest with low nutrient loads from wastewater.



Kelp forest invaded by algal turfs after increased nutrient loads from wastewater.

For further information contact

**Associate Professor
Sean Connell**

University of Adelaide
Phone +61 8 8303 6125

Email
sean.connell@adelaide.edu.au

**Ms
Patricia von Baumgarten**

Department for Environment and
Heritage

Principal Marine Adviser (Policy)
Phone +61 08 8124 4809

Email
vonbaumgarten.patricia@saugov.sa.gov.au



Many thanks to our generous sponsors and supporters

This project is supported by the Conservation Council of SA, through funding from the Australian Government's Caring for our Country and the South Australian Government.

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

Supporting organisations include:

- Adelaide and Mount Lofty NRM Board
- Primary Industries and Resources SA
- SARDI, Aquatic Sciences
- Department for Environment and Heritage



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If undeliverable return to:

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Help save time, money and the environment! Please send me Reef Watcher via email only. Email your details: info@reefwatch.asn.au

LIFE ON THE EDGE 2009 Coastcare Week, December 7-13

Life on the Edge 2009 is about to start this December! It is a fun and practical initiative by Coastcare to encourage all Australians who use and love our incredible coast to give back to local volunteer groups who look after the coast. Life on the Edge's goal is to collectively travel the entire length of Australia's coastline while helping to raise funds in support of the more than 2,000 Coastcare groups and 60,000 volunteers who work to maintain and

improve our favourite playground. Coastcare challenges you to do a 100km of any non-motorised activity, or 10hrs in the water, over summer 08-09. The goal is to collectively circumnavigate Australia's coast: 36,000 km of beautiful, rugged and pristine environments (for the most part!). Think 100km sounds like a long way? Well, it's not far at all if you have a whole team of kids sharing the kilometres! Register your entire



school, class, or a particular grade as a team for the Life on the Edge 100km Challenge. Register at <http://www.everydayhero.com.au/event/lifeontheedge> to set-up your challenge and start fundraising to help Coastcare groups. More information can be found at: <http://www.lifeontheedge.org.au>