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Issue 13.1, March 2010

Reef WATCH South Australia

Conservation Council SA

Reef Watcher Production

Contributions welcome: intertidal@ccsa.asn.au
All contributions are subject to editing.
Deadline for next issue: 14th May, 2010

Reef Watch has a Totally Wild day!

Carl Charter, Steve Leske, Dion and Stefan interviewed by Totally Wild

Children's Channel 10 TV show Totally Wild spent a day with Reef Watch staff and volunteers filming a story on Feral or in Peril and Subtidal Monitoring Programs.

Project Officers Carl Charter and Steve Leske were interviewed at Glenelg Marina and Port Noarlunga Jetty on 24th February. The story will be aired in mid April—we will email Reef Watch members with details soon.

One segment will look at Marine Pests and why it is important to stop marine pests from entering and/or spreading in Australia. The second segment looked at the Subtidal monitoring program including Feral or in Peril and fish survey methods.

Keep an eye out for the segment over next couple of months! If you miss it there will be a video link on Reef Watch website very soon.

A **big thank you** to Derrick of Glenelg Marine and Scuba (including Glenelg Marina) for winching a boat onto slipway and for use of their shop for filming story.

Monitoring the Harlequin fish and Western blue devil on Adelaide's reefs

Harlequin fish named 'Pearcy', photographed by Carl Charter at Snapper Point, Aldinga.

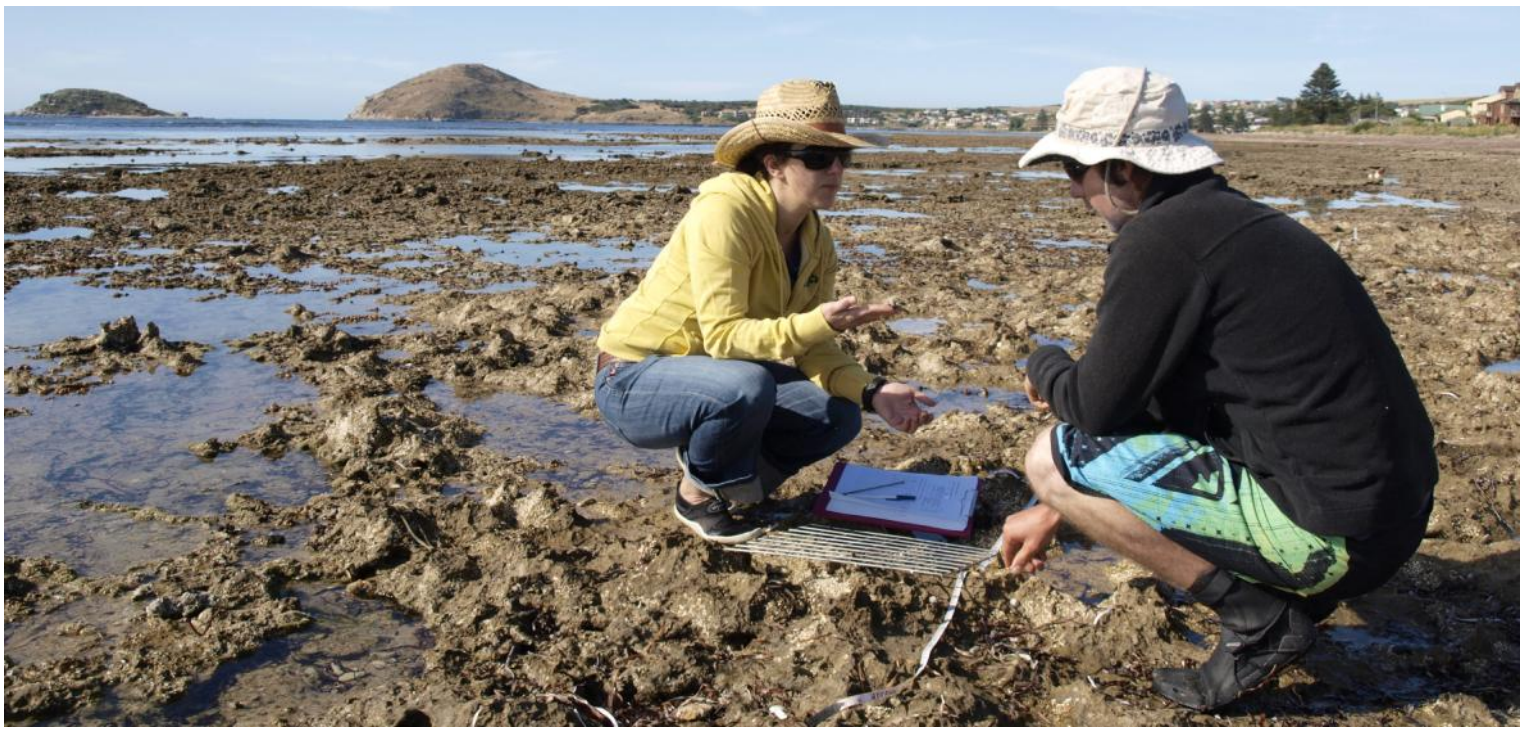
The harlequin fish and western blue devil are two of South Australia's most colourful and iconic reef fishes. However, they are also of conservation concern due to a combination of human threats and their life-history traits of being long-lived, slow-growing and site-attached. Nonetheless, obtaining reliable population data on these two species is crucial for assessing their conservation status and for conducting ongoing monitoring programs. Dr Simon Bryars from the Department for Environment and Heritage has just started a research project to develop a technique for identifying individual fish that will enable population estimates to be made. The project is focussing on Adelaide's reefs from Outer Harbour to Aldinga, and is being supported by the Adelaide and Mount Lofty Ranges Natural Resources Management Board.

With the help of photographs from community divers, Dr Bryars has already been able to confirm that individual harlequin fish and blue devils have unique markings on their bodies which do not change across many years. For example, several individual blue devils have been identified at Seacliff Reef across multiple years, while the same harlequin fish ('Mr Pearcy') has been sighted at Aldinga Reef in November 2007, January 2009, December 2009, and February 2010. Using these unique markings, Dr Bryars is now attempting to conduct a census of blue devils at Seacliff Reef by photographing and cataloguing each individual fish. To assist with the survey, a series of numbered star-droppers has been set-up along a 300m section of the reef such that the locations of individual fish can be accurately recorded. Acoustic mapping technology will also be used to generate a detailed picture of the reef that will assist with locating fish and in identifying their preferred habitat. In this way the population structure and movements of fish along the reef can be tracked across time.

Ultimately it is hoped that the project can be expanded to other reefs off Adelaide and that it will enable ongoing community monitoring of these two amazing fishes. It is highly likely that some individuals have been living on the same reefs for many years and possibly even decades – given that the blue devil lives to at least 59 years and the harlequin fish to at least 42 years.

If you have any photographs of harlequin fish or blue devils from the Adelaide Metro coast and you would like to help with the project, then please email them to Simon at simon.bryars@sa.gov.au. When taking photos it is important to focus on the sides of the head and in particular the gill cover region. It is also useful (but not essential) if both sides of each fish can be photographed as the patterns differ between the left and right hand sides. Any photos submitted will remain the property of the photographer and will be acknowledged in any reports or presentations that are generated as part of the project.

Intertidal Monitoring Program farewells Agnes Cantin



Agnes orientates new volunteer Surfing SA Hamish Longbottom .

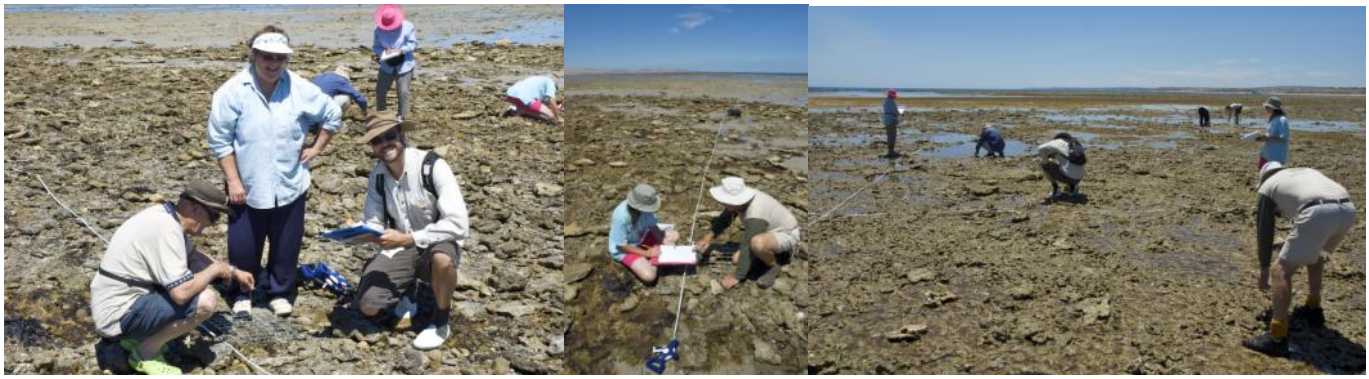
Agnes Cantin who has run the Intertidal Program over last 4 years has left to focus on completing her PhD thesis.
Alex Gaut, Biodiversity Program Co-ordinator, says "Agnes showed professionalism, energy and a passion for her work during her 4 years with the Reef Watch Intertidal Monitoring Program. Agnes made a significant contribution to the beginning of the program and its ultimate success, not only with Intertidal Monitoring but also supporting social events such as the Quiz Night, project administration and other office based tasks. Agnes will be missed by the many ConservationSA, Agency staff, community volunteers and school students that she supported in her role".
Carl Charter (who joined the Reef Watch team as Feral or in Peril Project Officer in mid 2009) has now taken on the Intertidal Monitoring Project.

Intertidal Monitoring dates

- Yorke Peninsula—17th March—meet at Innes NP visitor car park at 8.30am
- Lady Bay—28th March—meet at Lady Bay Reef at 10.30am
- Aldinga—21st March—meet at Snapper Point (Opposite Butterworth Road) at 11.30am

Subtidal monitoring date

- **Fish Count**—Sunday 18th April—meet at Noarlunga Jetty at 10am



Photos (c) Greg Andrew

Guidelines on Survey and Monitoring of Marine Litter

http://www.chrisjordan.com/current_set2.php?id=11

Marine litter is found in all seas – not only in densely populated regions, but also in remote places far away from any obvious sources. Marine litter originates from many sea-based and land-based sources and causes a wide spectrum of environmental, economic, safety, health and cultural impacts. The very slow rate of degradation of most marine litter items, mainly plastics, together with the continuously growing quantity of the litter and debris disposed, is leading to a gradual, but dramatic increase in the quantities of marine litter in our oceans and world shores. In response to the global challenge posed by marine litter, UNEP's Regional Seas Programme (RSP) and the Global Programme of Action (GPA) embarked in 2003 on the development of a 'Global Initiative on Marine Litter'. Although marine litter is found in all oceans and sea areas of the world, this initiative focuses on the establishment and development of pilot regional activities in twelve regions (Baltic Sea, Black Sea, Caspian Sea, East Asian Seas, Eastern Africa, Mediterranean Sea, Northeast Atlantic, Northwest Pacific, Red Sea and Gulf of Aden, South Asian Seas, South East Pacific, and Wider Caribbean) that are particularly affected. The global initiative also provides a global platform for the establishment of partnerships, cooperation and coordination of activities for the control and sustainable management of marine litter. Most of these activities have been developed by UNEP/RSP in close cooperation with the secretariats of participating Regional Seas Conventions and Action Plans and in consultation and, when appropriate, in cooperation with UN Agencies, including IOC of UNESCO, FAO and IMO.

The problem of marine litter was recognized by the U.N General Assembly (UNGA), which in its Resolution A/60/L.22 (Nov. 2005) calls for national, regional and global actions to address the problem of marine litter. This resolution notes the lack of information and data on marine debris, encourages States to develop partnerships with industry and civil society, urges States to integrate the issue of marine debris within national strategies dealing with waste management; encourages the development of appropriate economic incentives to address this issue, and encourages states to cooperate regionally and sub regionally to develop and implement joint prevention and recovery programmes for marine debris. A number of regions and countries have taken some steps to address the marine litter issue but despite all these efforts there are indications that the marine litter problem keeps growing. As recognized in the UNGA Resolution one of the significant barriers to addressing marine litter is the absence of adequate science-based monitoring and assessment programmes that will provide useful information, from which the most critical impacts of litter, on national, regional and global scales can be determined. Changes in accumulation rates and composition, trends over time and the effectiveness of management systems are also hard to assess without good monitoring methodologies. Although monitoring of marine litter is currently carried out within a number of countries around the world, the methods of survey and monitoring used tend to be very different, preventing comparisons and harmonization of data across regions or time-scales. In order to confront this problem the Regional Seas Programme of UNEP launched, in full cooperation with the Intergovernmental Oceanographic Commission (IOC) of UNESCO, the development of the UNEP/IOC Guidelines on Survey and Monitoring of Marine Litter that will assist policy makers and support efforts by regions, countries, Regional Seas Programmes and other relevant organizations to address the problem of monitoring and assessment of marine litter. These Guidelines include a comparative analysis of information from around the world on existing experience and methods for surveys, monitoring, reporting protocols and assessment of marine litter. The compilation of the information and the development of the Guidelines were carried out by a group of experts from all around the world and representing all oceans, lead by Prof. Anthony Cheshire of Australia and supported by the Government of Australia. UNEP and IOC wish to thank all the scientists and individuals who took part in this project! It is a hope by all organizations and individuals involved in the preparation of these Guidelines that they will be adopted and implemented for years to come by the relevant international and national organizations, regions and countries.

Clean up Australia Day—7th March

(+ 13th and 14th March)

Photo © Steve Leske

Come along for a snorkel or SCUBA dive, help pick up rubbish and look for feral marine species, everyone welcome.

Sunday 7th March

8.am Brighton Jetty with Adelaide Uni dive club
Meet at jetty. Contact Steve Leske 0400272177

9.30am Glenelg Jetty with Adelaide Scuba
Meet at Adelaide Scuba at 9.30, dive gear will be transported to the jetty from the shop. Contact Josh or Dani on 82947744

10am Noarlunga Jetty with S.O.D.S.
Meet in the car park. Contact Roger Clarke (wk) 83260958

10am Screw Pile Jetty, Victor Harbor with Underwater Explorers Club
Meet at causeway, dive gear will be transported across by trailer.
Non divers needed to help with bag collection etc. Divers must register by Contacting Carl Kuhn 0417 837 960

10am Port Broughton Jetty with Gawler Dive club and U/W Sports
Contact Kylie Williams, kwilliams@williamsmetalfab.com

11am Rapid Bay Jetty with Flinders Uni Dive Club
Meet in the jetty car park. Contact Rebecca Neumann
rebeccaneumann@gmail.com and you can register at:
www.cleanupaustraliaday.org.au/FUUC+underwater+and+coastal+cleanup

Saturday 13th March

10am Edithburgh Jetty with Divers Delight
Contact Norman or Jackie on 83637518

Sunday 14th March

9am Moonta Bay Jetty with the Dive Shack
Dive followed by a BBQ and fun dive at Port Hughes.
Contact Paul on 0417 814 857

10am Port Hughes Jetty with Divers Delight (contact as above)

FREE Dive slates kit

BYO snorkel or dive gear, including gloves, catch bag and knife (if you have one, to cut fishing line). *Feral or In Peril* program introduction and slates provided free on day. Do you need further information?

Phone the above contacts or **Steve Leske** - info@reefwatch.asn.au Mob: 0400 272 177

2010 Year of Biodiversity

Photo: © Carl Charter

2010 is the year of Biodiversity, get involved!

- Reef Watch monitoring—above and below water.
- Tour Adelaide Museum's new biodiversity gallery
- Make informed seafood choices (see below).

Photo of Bailey Charter enjoying activities during public opening of the Biodiversity Gallery at the South Australian Museum.

Sustainable seafood choices

www.marineconservation.org.au/pdf/sustainable_seafood_pocket_guide.pdf

If you love our oceans but also love seafood, then this is the guide for you. *Australia's Sustainable Seafood Guide* is the country's first independent national tool to choosing your seafood wisely. Compact enough to fit in your pocket, the *Sustainable Seafood Guide* gives you an insight into the sustainability of over 60 types of seafood. If you're worried about overfishing but you also eat fish, you shouldn't be without it. You can purchase the *Sustainable Seafood Guide for $9.95 from* www.marineconservation.org.au

The 3-Step Pocket Guide
Choosing sustainable seafood is easy. Start by downloading your free 3 Step-Pocket Guide. Print it out and keep it in your wallet for the next time you're choosing which seafood to buy.

How long can you last in unprotected waters?

How long would you last if your home was swept with massive trawler nets, polluted with toxic drums, and littered with all sorts of plastic rubbish? Play the fantastic new online game and find out!

www.saveourmarinelife.org.au

Save Our Marine Life has just launched a cool online game featuring celebrity mascot Sandy Seal. Become Sandy as you steer your way through dangerous unprotected waters. Keep up your energy by eating fish, and go crazy in a frenzy of fish feeding when you finally reach the protected waters of marine sanctuaries.

Post your high score and challenge your friends through Facebook to beat it. See how long YOU can last in unprotected waters (oh, and don't forget to sign the petition for more protected waters when you're there).

Our marine life is unique, but unprotected.

Willunga Waldorf School gets involved in Reef Watch Subtidal Monitoring

Just a brief overview of the project that I am doing this year, and how Reef Watch is a part of it.

At Willung Waldorf School year twelve students (like me) are required to do a major project of their own choice. Students are given time each week specifically to work on their individual projects (Wednesdays from eleven onwards). Students may also work on their projects at other times in the week (e.g. weekends) if they wish.

Photo: © Carl Charter

For my year twelve project I wanted to further develop my new skill of SCUBA diving, as well as do a bit of underwater photography and I wanted to learn as much as possible about our local reefs and marine life. The plan is that in the near future I will be able to conduct my own scientific research into reef health and do a basic comparative study of the reef to the left and right of O'sullivans Beach boat ramp with an aim of bettering the communities understanding of human impact on this particular area. I've got myself some contacts at Flinders Uni who I hope will help me structure the paper that I intend on writing.

I already knew about Reef Watch and thought that it would be a great way to meet other divers with interests similar to my own. I also heard that they offer a reef monitoring course, which I thought would be perfect if I want to collect good data for a proper scientific study.

Having dived with Reef Watch for several weekends now, I have learned stacks about the different types of flora and fauna that inhabit the temperate waters of South Australia. On every dive I learn something new, and I feel like there are limitless possibilities, with countless reefs to explore, and infinite things to learn. What excites me the most is the spectacular abundance and diversity of marine life that can be seen on our reefs. I feel like there's always something new to see, no two dives are the same. Diving with Reef Watch is a fantastic way to learn how to identify, appreciate and most importantly to protect the wonderful marine life that inhabits the reefs of South Australia.

Cheers,
Stefan

Marine reserves mend food chains, link by link

Conservation managers need to take a long-term view when assessing the value of marine protected areas, according to a paper in the Proceedings of the National Academy of Sciences of the United States of America.

The paper, 'Decadal trends in marine reserves reveal differential rates of change in direct and indirect effects', was written by an international team of authors led by Russ Babcock of the CSIRO Wealth from Oceans Flagship. It is the first paper to summarise the results from the most significant published long-term studies of temperate and tropical marine reserves. The team examined ecological data from coastal marine reserves in New Zealand, Australia, California, the Philippines and Kenya that had been in place for 10 years or more and were monitored before and after protection. "As marine reserves gain favour worldwide, stakeholders want to know how rapidly changes will occur after protection, but the changes are sometimes surprising and difficult to predict," Dr Babcock says. "Our study suggests it will take decades to observe, predict, and validate the full implications of marine reserves because many of the processes we need to understand operate on these timescales." Dr Babcock says most studies to date have focused on the restoration of fished species (higher predators) without considering the cascading effects on prey such as small fish, invertebrates, algae and corals. "We found that while the direct effects of protection on fished species are rapid, initially occurring within five years, it takes 13 years on average to detect the indirect effects on the broader ecosystem."It takes a while for primary, secondary and tertiary effects to occur," Dr Barrett says "For example, in temperate reef systems, the recovery of lobsters and large fish can increase predation on sea urchins, causing reduced grazing and recovery of kelp forests." A co-author of the paper, Neville Barrett of the Tasmanian Aquaculture and Fisheries Institute, says marine reserves show different timeframes for different types of recovery. "It takes a while for primary, secondary and tertiary effects to occur," Dr Barrett says. "In some areas we are still seeing changes 20, 30, and 40 years post-protection".

Read more at:
http://www.csiro.au/news/Marine-Reserves-Mend-Food-Chains.html


Photos: © Carl Charter

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

Government of South Australia

CARING FOR OUR COUNTRY

Conservation Council SA

If undeliverable return to:

Conservation Council of SA
Level 1/157 Franklin Street
Adelaide 5000
SA

Postage Paid Australia

Reef WATCH South Australia

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

White shark tagging off Port Stephens in NSW

Although more people are killed each year by pets or insects, it's the Great White Shark that fills us with dread. What does science really know about how many great white sharks there are, how they behave, or where they move? We actually don't know how the populations of white sharks are doing around Australia. There's no common metric to count them or see how they're doing. To look for answers, there's no better place to be than Hawks Nest beach, just north of Port Stephens in NSW. There are just two places in the whole of eastern Australia where white sharks congregate. But this one is unique because the sharks are so accessible. This is one of the few places in Australia, if not the only place that we know of, where we may be able to get a count of juvenile white sharks that will over time give us an idea of how their populations are tracking.

For more and to see short video go to **http://abc.gov.au/catalyst/stories/2816558.htm**