

redmap

SPOT. LOG. MAP.



Welcome to our autumn (almost winter!) edition of Redmap News. You might have noticed that we've made some changes to the website recently. It's now much easier to view the list of what's been spotted in particular fishing blocks, and to see the list of sightings for a particular species. All you need do is go to the latest sightings page (www.redmap.org.au/sightings/listing/) and select details in the sort fields to produce a list of sightings.

We've also produced a Redmap results page for a few of our more commonly reported species: www.redmap.org.au/resources/redmap-results-summary/

Thanks to all our members who have logged sightings on the Redmap site. Redmap sightings data have been cited in 3 international scientific journal articles (including the one mentioned on p. 5).

And thanks for all the great photos you've logged. If you're keen to hone your photography skills, the next in our series of articles on underwater photography is on page 6.

Winter is almost here and now is the time that we are particularly interested in hearing about species that are spotted outside their usual known range – if we get a large number of verified sightings of a particular species throughout the cooler winter months then that is good evidence of a range extension. So, if you're out on or in the water during winter and spot something unusual, we'd love to hear from you.

It was great to chat to so many people at AgFest (see p. 2). Thanks to those of you who signed up to Redmap at our stand and congratulations to the winners of our sign-up prizes.

Happy fishing, boating and diving.

The Redmap Team



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Redmap is a project of the Institute of Marine and Antarctic Studies (IMAS). Redmap has input from a large number of institutes, companies and organisations, and we thank these groups for their considerable contributions.

REDMAP AT AGFEST 2011

At the beginning of May, Redmap and IMAS shared a tent with Oceanwatch at AgFest. It was a fantastic opportunity to talk to people about Redmap. Thanks to everyone who visited our stand during the three days of Agfest, and thanks to Oceanwatch for organising the stand.



Children visiting the IMAS–Oceanwatch stand were given the opportunity to paint a wooden fish, play a game of oversized snakes and ladders, and check out some squid eggs under the microscope.



Oceanwatch is planning to create a giant mobile using the collection of wooden fish painted by children from around Australia. The mobile will be hung in Martin Place in Sydney.



Congratulations to Lenny Cairns who won one of the \$50 Mures voucher prizes for registering with Redmap at AgFest. Lenny is a keen amateur crayfisherman and also enjoys rod fishing. Lenny lives on the west coast of Tasmania.

SEAFOOD INDUSTRY PARTNERSHIPS IN SCHOOLS PROGRAM

The recently launched Seafood Industry Partnerships in Schools pilot project connects commercial fisherman and marine farmers with school classes across Tasmania. We asked Jennifer Hemer from Oceanwatch Australia to tell us a bit about the project.

The Seafood Industry Partnerships in Schools project is operated by OceanWatch Australia in partnership with the Tasmanian Seafood Industry Council and the Department of Education, with funding from the Fisheries Research Development Council.

At the project launch Neil Stump, Executive Officer of the Tasmanian Seafood Industry Council, told project supporters that 'the Tasmanian Seafood Industry sees the Seafood Industry Partnerships in Schools program as a way to educate our community about the seafood industry; the benefits we provide to local communities, our strong environmental credentials and that we offer career opportunities across a range of occupations within marine industries.'

have been talking about it because all of a sudden they started asking me about the size of an abalone, and how much diesel I put in the boat, and how much I earn! The day I took my gear in to show them, I reckon my wetsuit was put on and taken off about 28 times.'

Bryan found the experience so rewarding that he's now off to Rose Bay High School. And there are many more fishermen and marine farmers like him who are opening up their processing facilities and hatcheries and heading into classrooms. Some fishermen will also keep in touch with their partner class while they are at sea, sending text messages detailing where they are fishing and how much of each species has been landed so that students can log the details and follow the journey on navigational charts.

If you are a commercial fisherman or marine farmer who would like to become involved in Seafood Industry Partnerships in Schools project, please contact Jennifer Hemer (Project Officer): jennifer@oceanwatch.org.au or phone 0428 026 356.

'2009/328 Tactical Research Fund: Seafood Industry Partnerships in Schools Program Pilot, Tasmania' is supported by funding from the FRDC on behalf of the Australian Government.



The project operates two streams: Adopt a Fishing Boat, and Adopt a Marine Farm. By forming a partnership with a classroom, commercial fishermen and marine farmers have the opportunity to tell students about their industry, and what it's like on a day-to-day basis.

Bryan Denny is a commercial fisherman who formed a partnership with his son's class at Lauderdale Primary School. 'The kids were a bit shy to start with, but they must

Commercial fisherman Bryan Denny with students from Lauderdale Primary School.



TAFI BECOMES PART OF IMAS

A collaboration agreement between the Tasmanian Government and the University of Tasmania has been signed to underpin sustainable fisheries and aquaculture research at the University's new Institute for Marine and Antarctic Studies (IMAS).

With the signing of this agreement, TAFI ceased to exist as it formally became part of IMAS.

The Minister for Primary Industries and Water, Bryan Green, said the agreement would ensure the highest quality research and development services for the primary industry sector through its partnership with the University of Tasmania.

'Having TAFI incorporated into a world class Institute such as IMAS not only strengthens the fishing industry, but also the



Tasmanian economy,' Mr Green said.

UTAS Acting Vice-Chancellor Professor David Rich said that 'the incorporation of TAFI into IMAS will continue to build the reputation of UTAS and Tasmania as the centre for Antarctic, marine, and fisheries research that is both nationally and internationally recognised,' he said.

IMAS Executive Director, Prof Mike Coffin, said that in a little more than a decade TAFI had received national and international renown.

'TAFI's research will now continue under IMAS and importantly our strategic focus on key industry and government needs will remain a key focus of our work under the Agreement'.

IMAS consists of two Centres: Fisheries, Aquaculture & Coasts, and Marine & Antarctic Futures. As Director of the Fisheries, Aquaculture & Coasts Centre, Professor Buxton will continue to lead fisheries and aquaculture research within IMAS.

For more information about IMAS, go to www.imas.utas.edu.au



Photo © Z Mrkic.

NEW STUDY FINDS DERWENT IS FILLED WITH INTERLOPERS

A recent study of the marine life in the Derwent Estuary has revealed some disturbing and obvious scars left by human activities.

Reef Life Survey (RLS), a national marine science and conservation program, recently undertook an extensive survey of marine life in the Derwent, and in doing so engaged the skills of an active and dedicated team of local volunteer SCUBA divers.

The comprehensive study recorded all the fish species and larger invertebrates (such as sea stars, sea urchins and sea shells) on areas of rocky reef within the Derwent Estuary.

Dr Rick Stuart-Smith, from the IMAS said the results were startling.

'Although the Derwent is home to some unique and globally significant fauna, like the endangered spotted handfish, it is also heavily impacted and, of particular concern is the abundance of fish and invertebrate species that are not

native to Tasmania - they are so common in some areas they totally dominate,' he said.

'Not a single native species was found on the sea floor in some areas of rocky reef close to the Hobart Port.'

The study also looked at the marine life in Sydney Harbour and Port Phillip Bay and discovered that, surprisingly, rocky reefs in the Derwent contained many more introduced fish and large invertebrates than the bays at the doorstep of much larger cities.

The results were not all so sobering though, with some rare fish species also being recorded by the RLS team, and areas of rocky reef in the lower estuary appearing reasonably healthy.

More information on the Derwent Estuary is available at www.derwentestuary.org.au

For more information on the Reef Life Survey, please visit www.reeflifesurvey.com

WARMING WATERS OFF THE EAST COAST OF TASMANIA

A new paper reveals the consequences of the elevated rate of ocean warming in eastern Tas.

There is evidence that ocean warming off the east coast of Tasmania at 3–4 times the global average is the result of strengthening of the East Australian Current.

Increases in the strength, duration and frequency of southward influx of warm, nutrient-poor water transports heat and organisms to eastern Tasmania with dramatic effects on the ecology of the region.

This shift in large-scale oceanography is reflected by changes in the structure of zooplankton communities close to the shore and in other important elements of the marine system, including:

- A dramatic regional decline in the extent of dense beds of giant kelp over several decades

- Marked changes in the distribution of nearshore fishes
- Range expansions of other northern warmer-water species to colonise Tasmanian coastal waters.

Lead author Professor Craig Johnson from IMAS said population-level changes in commercially important invertebrate species such as abalone and rock lobster may also be associated with the warming trend.

The paper also records the establishment of the long spined sea urchin in Bass Strait and Tasmania. 'Over-grazing of seaweed beds by this animal is causing a fundamental shift in the structure and dynamics of Tasmanian rocky reef systems by the formation sea urchins "barrens" habitat,' Prof Johnson said.



Redmap sightings data were cited in this paper!

OCEAN WARMING EFFECTS ON THE BANDED MORWONG

The findings of a joint CSIRO – University of Tasmania study published this month in Nature Climate Change indicate negative effects on the growth the banded morwong.

Scientific monitoring since 1944 by CSIRO at Maria Island show that surface water temperatures in the Tasman Sea have risen by nearly 2°C over the past 60 years.

'Generally, cold-blooded animals respond to warming conditions by increasing growth rates as temperatures rise,' said CSIRO marine ecologist Dr Ron Thresher, a co-author of the study. 'But theory and laboratory studies show that this has a limit.'

'By examining growth across a range that species inhabit, we found evidence of both slowing growth and increased physiological stress as higher temperatures impose a higher metabolic cost on fish at the warm edge of the range,' Dr Thresher said.

'In this case, off northern New Zealand, ocean warming has pushed the banded morwong past the point where increasing temperatures are beneficial to growth.'

According to a co-author of the paper, IMAS researcher Dr Jeremy Lyle, banded morwong were used in the study because they can live for almost 100 years and, as adults, they stay in essentially the same area even if the water temperature shifts

'Growth rates of young adult banded morwong in SE Australia have increased significantly since 1910 at four sample sites,' Dr Lyle said. 'The team from CSIRO and IMAS compared these changes to temperature trends across the species' distribution. They observed increased growth for



Cheilodactylus spectabilis (St Helens) – Banded morwong (Photo by Dr Rick Stuart-Smith, IMAS).

populations in the middle of the species' range in Australian waters where temperatures have increased, but are still relatively cool, but growth slowed with rising temperatures at the warmer northern edge of the species' range in New Zealand waters.'

Dr Lyle said the study showed that growth performance in banded morwong began to suffer above average annual water temperatures of about 17°C.

The paper's other co-authors were a post-doctoral fellow with CSIRO who is now with Aarhus University in Denmark, Dr Anna Neuheimer, and, Dr Jayson Semmens from UTAS.

The research was conducted through CSIRO's Climate Adaptation Flagship, and IMAS, with funding from an Australian Government Endeavour Awards Fellowship and the Winifred Violet Scott Trust.

UNDERWATER PHOTOGRAPHY – EQUIPMENT

So, you want to get great pics to report your Redmap sightings? Here, Adriaan van Huissteden talks about what you will need to take your camera underwater.

Entry level price for housings for popular point and shoot cameras have come down a lot in recent times (also thanks to the US dollar), and opened up opportunities to capture the underwater world.

You need to make some decisions before buying your housing. Do you want to use a new digital SLR (DSLR) camera underwater? What happens if the housing floods? Are you willing to risk the camera underwater? In what depths will you be using the camera? Are you going to do macro or wide angle photography? How often will you use the camera underwater? Should you buy second-hand equipment? What sort of housing material should you choose? Do you need ports? Do you need more light (strobes)?



Soft pouch for camera

When it comes to housings for digital cameras, there are two main types available. The first is for point and shoot (P&S) cameras where the zoom, macro and wide angle are all built into the camera and generally you take the photo looking at the display on the back of the unit. The second is used for DSLR cameras and uses changeable lenses for macro, zoom and wide angle and also requires you to use the view finder when taking the picture for the best result. There are also soft pouches (see above) that are OK to keep your camera splash free or sand proof, but are not recommended for submersion – DiCAPac make a large selection of these.



An underwater housing for a point and shoot camera.

If you want to use your P&S camera, have a search on the web to see if the maker of the camera sells a housing to suit.

Many companies such as Sony have released their own housings (such as the one above). If you are out of luck, visit the Ikelite website (www.ikelite.com) and under the 'digital still' page, look to see if your camera is listed. You may need a port or other accessories for the housing you choose. Ikelite products are well placed in the market (in my opinion) for features and price and it's the brand I trust and dive with. Local dive shops in Hobart can order Ikelite equipment, and it only takes a few weeks to arrive. Make sure you price it all up – it may be cheaper to buy a new camera and a housing made by the camera manufacturer than buy an after-market housing for an older camera. Make sure you have the option to use the internal flash and also attach external strobes if need be in the future. Camera housings will be generally made from high quality acrylic plastic. Prices tend to be from around \$200 to \$400 for a housing from the manufacturer, and \$500 up for something like an Ikelite housing.



DSLR camera acrylic underwater housing.

If, however, you wish to go the next step and venture underwater with your DSLR camera, you will find it hard to find a housing made by your camera manufacturer. They tend to stick to making cameras and lenses. DSLR housings tend to range from \$1000 up, and then you need strobes, strobe arms, ports and cables to fit it all together. DSLR housings can be made from acrylic plastic or aluminium. Generally, aluminium units will be rated to greater depths, but I like high quality acrylic, as I can always see that the O-ring seal is perfect once sealed, and it is also easy to see any water droplets if the housing should happen to spring a leak. Some suppliers to look at are Sea and Sea, Inon, Aquatica, Subal and Ikelite.



DSLR camera housing with dome port.

Ports attach to the front of the housing to accommodate a zoom function that extends past the front of the camera, or to allow for a lens inside the housing on a DSLR. Different ports are needed for different lens sizes and types. Dome ports are used for wide angle, but flat ports are used for macro as they let you get much closer. Some ports allow you to control the zoom and/or focus of the lens from the housing. If you use a housing with ports attached, it is a good idea NEVER to enter the water from a boat or drop holding the camera. Ports have been known to be ripped off when entering the water, leaving the water free to rush in and destroy your camera. Not so good ...

Make sure you are comfortable holding your housing underwater and that the positive or negative buoyancy is OK. DSLR housing generally has handles, and it is a great idea to have a cord of some type to attach you to the camera. It wouldn't be nice to see your camera and housing slip away into the depths while on a safety stop, knowing you can't chase after it ... Ouch!

Attaching strobes to any underwater camera is necessary if you want to go to the next level of wide angle or macro with



Strobe light.

heaps of light. Strobes come in many sizes and have lots of different features and functions. Make sure your strobe will work with your housing and camera. Some strobes are connected to the camera via wired cable to communicate when to flash, and how long or how bright. This is generally called 'through the lens' (TTL) and means you don't have to set the strobes manually. Some strobes required fibre optic cables to get the information between the camera and the strobe. A focus light is also built into some strobes, and it enables the camera to focus on the subject (normally when doing macro) in low light. If possible, select a strobe that turns the focus light off the moment the photo is taken, and then back on afterwards. This eliminates the orange tinge that can be appear in your photos, caused by the focus light being on when the shutter opens.

To minimise backscatter when doing wide angle, it is a great idea to use arms on the strobes. These arms let you move the strobes away from the lens and help spread the light and also position the strobes when doing macro.

A good second-hand setup can sometimes be found on the internet too – make sure you look at eBay and the underwater photography sites that have 'for sale' adverts. It is better if you can see what you are buying before making a payment, but that is not always possible. Make sure you try to get a shop in the area to look at the system.

For other information, tips, tricks and photos, please visit my website www.vizbiz.com.au where you will find lots of useful links to suppliers and forums online.

If you would like to ask any questions on this topic, or arrange a dive, please contact me on 0438 524 782 or adriaanhv@gmail.com

Watch this space in future editions of Redmap News for some more great photography tips from Adriaan.



PRIZES

Don't forget to remind your friends and family to sign up online to receive the Redmap newsletter. Each month Redmap subscribers go in the draw to win one of two \$50 Mures vouchers to spend on yummy fresh or cooked seafood, or a snack from the Polar Parlour at Mures Lowerdeck.



If you have any comments, suggestions or questions about Redmap, please email us: enquiries@redmap.org.au



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From time to time we'll post videos and photos that aren't on the Redmap site.

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RESEARCH ANGLER LOGBOOK PROGRAM

Some of you might have heard of or been involved with the Research Angler Logbook program (RALP), which was a project carried out by IMAS and funded by a Fishwise Community Grant.

Over two years and three months, 22 fishers provided information on 516 fishing events, many reporting on group catches.

This study was the first of its kind in Tasmania and was designed to determine if such a program is a cost-effective way of collecting data to add to existing survey methods. The researchers also wanted to work out whether or not the information collected is suitable for scientifically assessing Tasmania's recreational fisheries.

The program concentrated on marine fishing practices. Fishers taking part in the program were from all over the state, with the exception of the west and far south coasts. Most were based around south-east Tasmania.

Close to 8200 individual animals were caught representing over 90 species. Size measurements were reported from more than 4600 individuals.

The project proved successful at collecting information on a range of fishing activities as well as a significant amount of information on the size make-up of species caught by recreational fishers in Tasmania, including high profile species such as southern rock lobster, southern bluefin tuna, striped trumpeter, scallops and abalone. However, the pilot project identified limitations in the ability of an angler diary program to provide a true representation of the behaviour and catch of the average recreational fisher.

The researchers concluded that for RALP to be successful, there need to be appropriate resources and support to effectively manage respondents. If the potential biases and limitations of the information collected are recognised, and the program is focused on species and/or regions that are suitable for this form of data collection, angler diaries might provide a useful method of data collection to add to existing survey methods.

If you'd like to know more about RALP, contact Sean Tracey on 6227 7277.

