Government of Western Australia
Department of Fisheries

RESEARCH ANGLER PROGRAM

Newsletter No. 31
May 2015

Welcome to the RAP Newsletter, providing feedback on the data you are collecting and keeping you informed about what is happening at the Research Division of the Department of Fisheries.

Reward for tagged lobsters

In 2014 the Department of Fisheries and the Western Rock Lobster Council, with support from the Fisheries Research and Development Corporation (FRDC), began a large project tagging Western rock lobsters.

Since September last year, over 10,000 lobsters have been tagged and the aim is to have at least 20,000 lobsters tagged by April 2016.

Reporting the details of tagged lobsters will help researchers determine factors such as growth, mortality and movement, which will aid the continued sustainability of lobster stocks.

If you catch a lobster with a tag, (be it size, undersize, oversize, setose or berried), please write down the tag number, lobster size (carapace length), date, location (GPS coordinates if possible) and depth at which it was caught. If the lobster is legal to take, you may keep it. If it is not legal to take, return it to the water with the tag still attached.

Tagged lobster.

When you report a tagged lobster with the above information, you will receive a scratch 'n' win card and information on the lobster you recaptured. All tags from this project returned between October 2014 and May 2017 will go in the running for annual cash prizes of twenty $100 and one $3,000 prize.

Thus far 'Lindsey' (A7017) and 'Lydia' (A8957), both non-breeding 'white' phase females (80 and 86mm) released off Fremantle in December, have travelled the longest distances since the project began. Each averaged movements of more than 5km per day, with Lindsey turning up off Dongara in mid-February and Lydia being caught a week later west of the Abrolhos, having walked almost 400km!

Information from the tagging project has a vital role in the management of the western rock lobster fishery. Fisheries researchers eagerly await the next report of a recaptured tagged rock lobster.

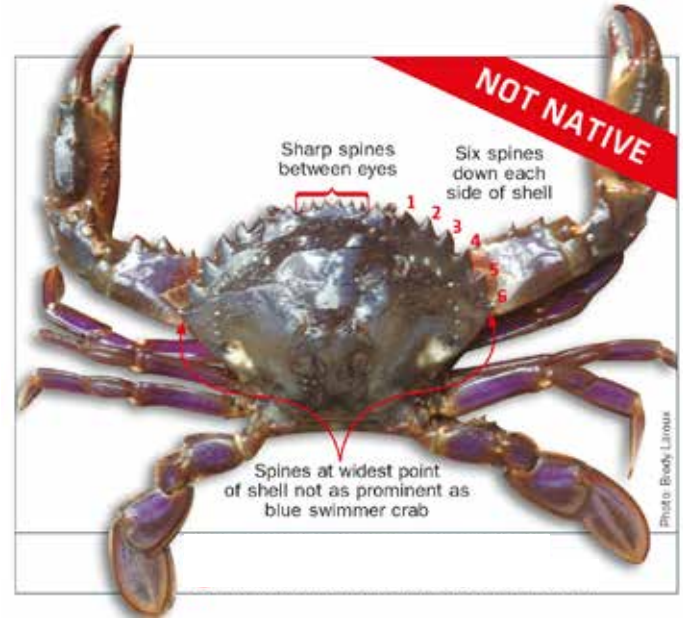
For further information or to report a tagged lobster, contact:

Dr Matt Pember
matthew.pember@fish.wa.gov.au
(08) 9203 0111

'Lydia' travelled 394km in 2.6 months.

Asian paddle crab

The non-native Asian paddle crab (*Charybdis japonica*) was first detected in Western Australian waters in November 2010. It was discovered in the Peel-Harvey Estuary by a commercial crab fisher.



This aggressive and invasive crab is found throughout the Indo Pacific region, from South Africa and India, through south-east Asia and all the way to Japan and French Polynesia. This crab may carry a disease that is poisonous to humans so if you catch one, please don't eat it! It could also compete with native crabs such as our own blue swimmer, as it has done in New Zealand with one of their swimmer crabs.

How did it make its way to WA? Well, we can't really tell for sure, but the most likely explanation would be that it arrived in a vessel's ballast tank or as hull fouling.

Since the first report of the crab, there have been another four – all in the Swan River and found by recreational fishers. The most recent was discovered in December 2014 not far from Matilda Bay, just downstream from the Narrows bridge.

Fisheries researchers have run a widespread and intensive trapping program to find the Asian paddle crab since it was first discovered here. Despite using various types of traps and baits and covering large stretches of the Peel-Harvey Estuary and the Swan and Canning Rivers… researchers have not caught a single Asian paddle crab. It certainly isn't for lack of trying.

But as blue swimmer crab fishing is the most popular type of recreational fishing in WA, that means there are a lot of people who can be on the lookout for this dangerous crab.

It is very easy to tell if you have caught an Asian paddle crab or one of its very close relatives because it always has exactly six spines down each side of its body, not including the spines between its eyes. For comparison, both blue swimmers and muddies have nine spines down each side.

If you think you have caught or seen an Asian paddle crab – *do not eat it*. If possible, keep the crab and call Fishwatch (1800 815 507).

WA salmon

Western Australian salmon (*Arripis truttaceus*) can live up to 12 years, reaching lengths close to a metre and weights approaching 10 kg. WA salmon are mature at 60-65cm when they are three to five years old. At this time they begin a significant migration from south-eastern Australia to their spawning grounds in the south west of WA. Schools of salmon can be seen as far up the west coast as Perth before they return to the south coast. During *La Niña* conditions, which produced the 'marine heatwave' in 2010 and 2011, the Leeuwin Current is stronger and transports more warm water further south. This southward warm water can often prevent the salmon from moving as far up the west coast.

In 2015, a pilot study on WA salmon will be conducted using approximately 440 sectioned otoliths sampled from commercial catches in 2012 and 2013 to look at the age structure of the stock. Early results indicate that most fish are between the ages of three and seven, which is consistent with the age that these fish reach maturity and migrate west.

WA Salmon.

Catch the fishing news

Have the latest WA recreational fishing news delivered straight to your inbox – subscribe to the Department's *Catch!* e-newsletter at **www.fish.wa.gov.au/catch**

The art of otolith cutting

Establishing a fish's age is a fundamental part of fisheries research. Fish are 'aged' so we can better understand and monitor trends in fish populations. The most common way to age fish is to count the growth rings in their otoliths.

Also called 'earbones', otoliths (derived from the Greek words for ear and stone) are calcified structures found in pairs in their heads and are used for balance and/or hearing. In some species, such as Australian herring, otoliths can be examined whole. Usually, otoliths need to be sliced into fine sections in order to determine an age. Like tree trunks, otoliths display annual growth rings. Otoliths can be sectioned by setting them in a block of clear polyester (epoxy) resin and then slicing them using a low-speed diamond-bladed saw. The section is mounted on a glass slide and examined through a microscope to identify and count the bands that are laid down annually during periods of slower growth.

We age thousands of fish every year and an astonishing 288,011 fish have had their otoliths sectioned here since 1990! Please keep those fish frames coming through our doors so we can keep increasing that number and our knowledge.

Finfish otoliths are found in the centre of the head, here shown in a dhufish.

Otolith cutting.

Fish backbone, wings and frames excluded from possession limit

The Statewide possession limit has been changed to exclude fish backbones, frames and wings (on the basis that the entire fillet has been properly removed).

This means that after you've expertly filleted your catch, you can save your frames without risking being over the possession limit.

Then you can send them to us at Fisheries research!

A dhufish frame with head, guts and bones intact.

Vale Mel

In March this year, Melanie Tozer, an exceptional volunteer for Fisheries, sadly passed away. Mel and her husband Colin started volunteering for Fisheries in 1997 when they were living in Karratha. They joined the Volunteer Fisheries Liaison Officer (VFLO) program and continued to do so when they moved to the metro area. Mel took on a volunteer coordinator role in the Perth program. She was involved in fishing workshops for children, the Fishers with Disabilities Program and beach patrols.

Mel and Colin were heavily involved in abalone research. Since 1999 Mel conducted 'reef counts' – counting the number of fishers on the reef platform to determine fishing effort. After 2003 Mel and Colin ran 'weigh stations' – where they counted and measured fishers catches of abalone.

For 15 years Mel participated in the Point Walter tailor recruitment program. Mel was an extremely talented fisher. Several times she was the fisher that caught the most tailor in a year. Despite Mel and Col moving to Dawesville in 2006, they still drove to Point Water to participate in the program.

In 2012 Mel and Col traveled to the south west and took part in the Australian herring tagging project, where Mel's remarkable fishing ability once again shone. Mel was a special lady, always willing to help and extremely dedicated. She will be missed deeply by many fisheries research staff and by her fellow volunteers. Our sincere condolences go to Colin and family.

Mel Tozer.

Fisher of the Month

The RAP 'Fisher of the Month' prizes were decided by randomly drawing one log sheet returned in each month.

Congratulations to the following 'fishers of the month':

August 2014	**Luke Dooley**	**(West Coast)**
September 2014	**Chris Gislingham**	**(West Coast)**
October 2014	**Daniel Bedo**	**(West Coast)**
November 2014	**Bob Longmore**	**(West Coast)**
December 2014	**Joseph Gardner**	**(West Coast)**

Each winner will receive Department of Fisheries research merchandise.

Send us your skeletons winners

Congratulations to the Oct-Dec 2014 quarterly Send us your skeletons winners – Mike King, Graeme Maunder, Lee Shelley and Mark Tomaseti. They won prizes such as a Mills charter fishing trip for two, BCF voucher, fishing rods and freeze dried bait.

Thank you for your ongoing support and happy fishing!

The Research Angler Program is run by the Nearshore and Estuarine Finfish Research Team:

Dr Kim Smith – **Kim.Smith@fish.wa.gov.au** Amber Quinn – **Amber.Quinn@fish.wa.gov.au**

Douglas Anderson – **Douglas.Anderson@fish.wa.gov.au**

Telephone: (08) 9203 0111 **Facsimile:** (08) 9203 0199

Post: Research Angler Program, Department of Fisheries, PO Box 20, North Beach WA 6920

Deliveries: 39 Northside Drive, Hillarys, Western Australia 6025

ABN: 55 689 794 771

www.fish.wa.gov.au

Fish for the future

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