



RESEARCH ANGLER PROGRAM

Newsletter No. 28
June 2014



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.

Demersal stocks starting to recover on the west coast

In 2007, there was a stock assessment of the most popular demersal fish species in the West Coast Bioregion (WCB). The assessment (which was independently reviewed) concluded that overfishing of West Australian dhufish, snapper and baldchin groper had been occurring by both the commercial and recreational sectors. If the catch levels of 2005/6 were not reduced by at least 50 per cent, the stocks were in danger of collapse (Fisheries Research Report No 163).

These findings were confirmed by a second stock assessment in 2009, and resulted in major changes to the management of demersal species in the WCB so fish stocks could recover.

A third stock assessment was completed in 2013. Fish frame samples were collected between 2008/09 and 2010/11, with a large number being donated by recreational fishers. As there was an overlap between the collection period and the timing of the management changes (which occurred between late 2007 and early 2010), substantial recovery was not expected at such an early stage. However, the great news is that the assessment did demonstrate the earliest signs of recovery of both WA dhufish and snapper stocks in the WCB.

The restrictions on catching demersal species have allowed fish to survive for longer and resulted in a very small increase in the proportion of older fish in their stocks. This is a good sign, but stocks have not yet fully recovered. This will take some time, because these species are long-lived. It has been recommended that the current management arrangements be kept in place for at least five more years so that the stock recovery trend continues.



A WA dhufish
Photo: Henrique Kwong

Would you like to help monitor important demersal species like WA dhufish and snapper in the WCB? Demersal fish frames are still being collected via the *Send us your skeletons* long-term monitoring program and information from these will be used in the next assessment. Fish frames donated by recreational fishers are vital so scientists have the best possible data to inform management decisions.



A WA dhufish frame

More information, including what species we are looking for and where you can drop them off, can be found at www.fish.wa.gov.au/frames. When you donate frames of our required species, you go into our quarterly and annual prize draw. Frames donated before the end of 2013/14 could win you a trip to the Montebello Islands with Montebello Island Safaris.

You can check out the key findings of the 2013 west coast demersal species stock assessment at: http://www.fish.wa.gov.au/Documents/management_papers/fmp262.pdf or the more detailed report http://www.fish.wa.gov.au/Documents/research_reports/frr253.pdf

The 2011/12 WA recreational boat fishing survey

The Department of Fisheries developed an innovative survey that collected data from multiple sources including phone surveys, boat-ramp surveys and a remote camera survey to obtain an estimate of recreational catch and effort by boat-based fishers. Three thousand fishers kept diaries and 6000 boat ramp interviews were conducted.

Results indicated that the majority of the state-wide boat-based fishing effort during 2011/12 took place during summer (32%) and autumn (35%) with lower levels in winter (19%) and spring (14%). Autumn/winter was the most active seasons in terms of fishing effort in the North Coast (77%) and Gascoyne Coast (80%). In the lower half of the state, summer and autumn were the most active seasons for fishing effort in the West Coast (75%) and South Coast (66%).

Fishers reported catching more than 3.7 million finfish, sharks, rays and invertebrates from a range of 225 different species. Whiting, herring and pink snapper were the most caught finfish species.

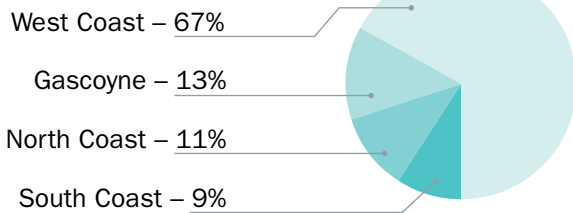
The survey found that the blue swimmer crab is the most popular recreational species with 871,000 caught in the 12-month period. More than half of those crabs were released, demonstrating that undersize crabs are being returned to the water.

The research was partly funded through the Recreational Fishing Initiatives Fund (RFIF) from boat licences. A similar survey will be repeated every two years with the second survey conducted 1st May 2013 to 30 April 2014. Catch estimates from these surveys will be compared to see if there are changes over time.

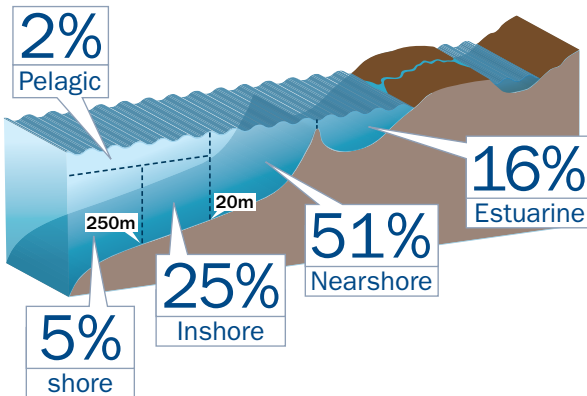
The full report on the survey can be found at <http://www.fish.wa.gov.au/Fishing-and-Aquaculture/Recreational-Fishing/Supporting-Recreational-Fishing/Pages/Western-Australian-Recreational-Boat-Fishing-Survey.asp>

Fishing effort

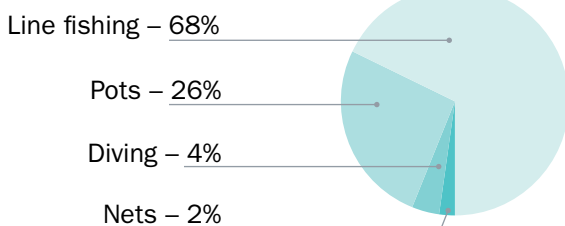
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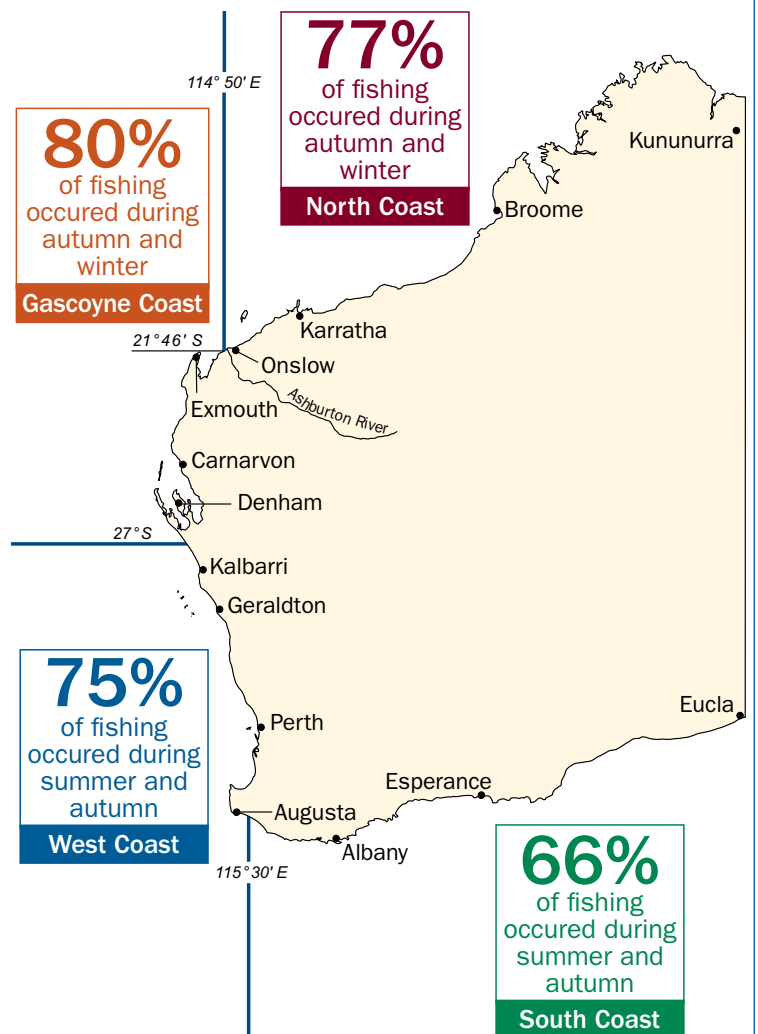
By habitat



By method



By season



Tracking black bream movements

Researchers at Murdoch University's Centre for Fish and Fisheries Research and recreational anglers are tagging black bream to better understand how this species moves within and between estuaries. The tagging study is part of a broader three-year, black bream research project funded by Recfishwest through the Recreational Fishing Initiatives Fund. This research is timely, as we need to understand how this important species is responding to the environmental changes occurring in our estuaries.

Black bream inhabit most estuaries in WA, from Kalbarri southwards, and also occur across southern Australia in SA, Victoria, Tasmania and southern NSW. Throughout this range, black bream are very popular with recreational fishers and make a significant contribution to fishing tourism in estuaries.

Capable of growing up to 500 mm, bream are most commonly caught by anglers between 200 and 300 mm.

Over the past twelve months, more than 800 fish have been tagged with small external T-bar tags; 11 of these fish have already been recaptured. Murdoch University Fish Ecologist Dr Joel Williams aims to tag 2,000 black bream in the Swan Canning River and Peel-Harvey Inlet by June 2015.

Dr Williams says, "While we understand the general movements of black bream populations from previous research, tagging individual fish and recording

their recapture location will give us a better understanding of how individual fish move throughout and between estuaries. This is important because estuaries are highly susceptible to the effects of climate change, including major declines in freshwater flows." Recent tagging research in Victoria found black bream further upstream than in the past, probably in response to changes in salinity due to reduced freshwater flows.

In June 2013, 12 keen recreational anglers volunteered to assist in the black bream tagging program.

"Having the involvement of recreational anglers is integral as they are able to catch, tag and release fish over a period of time while covering a large area of the estuary. Not to mention, they are much better at catching fish than the researchers!" said Dr Williams. The volunteers received the training required to safely and ethically implant a small T-bar tag below the skin and between the dorsal fin rays in each bream they caught over 200 mm total length. After training, volunteers could independently catch, tag and release any black bream they caught.

To date, the tagged fish recaptured by recreational anglers were reported to be healthy, signifying the success of the tagging. Ten of the eleven recaptured fish were caught in the same part of the estuary where they were tagged. This is expected as the

majority of recaptured fish were 'at liberty' for only a short period over summer. Interestingly, one fish that was tagged in the lower Murray River was then recaptured two months later in the Serpentine River. These results are very preliminary and researchers look forward to hearing from anglers recapturing tagged fish over the next few years.

As well as tagging, Murdoch University researchers are collating historical research data, plus collecting new data about bream biology, from a suite of representative estuaries across WA including the Moore, Swan-Canning, Peel-Harvey, Walpole-Nornalup, Wilson, Wellstead and Culham Estuaries. This will allow researchers to see whether population size and composition, growth rates and reproductive patterns differ between estuaries and over time within particular estuaries.

Previous research indicated that these biological characteristics are highly variable in black bream and can change over relatively short periods of time. Researchers will compare biological changes with environmental data to gain a greater understanding of the mechanisms driving bream biology. This information will help fisheries managers to ensure the sustainability of this most important estuarine species in the face of climate change in south western Australia.



If you catch a black bream that has a small 2 – 3 cm yellow tag (they often appear black due to algal growth; just scrape away the algae and the tag will appear) projecting from below the dorsal fin, record the unique tag number and the phone number as well as the length of the fish and where it was caught. Then call the number to give the researcher the details of the fish and the tag. Anyone who reports a tagged fish will be rewarded with a small gift. For more information on this project please contact Dr Joel Williams at j.williams@murdoch.edu.au.

Left: T-bar tagged black bream
Photo: Dr James Tweedley

Location, location, location

We know that fishers can be a little cagey when it comes to revealing their 'secret' fishing spots. Don't worry – we don't expect you to reveal all when you are filling in your log sheets. When fishing in the ocean you have the option of using a grid reference from the maps provided to you. Simply find your fishing location on the map, then look along the top or bottom of the page to find the block label (each label is 2 letters – BK, EG etc). Then look down the left side of the page for the block number. If you require a specific map please email Amber.Quinn@fish.wa.gov.au

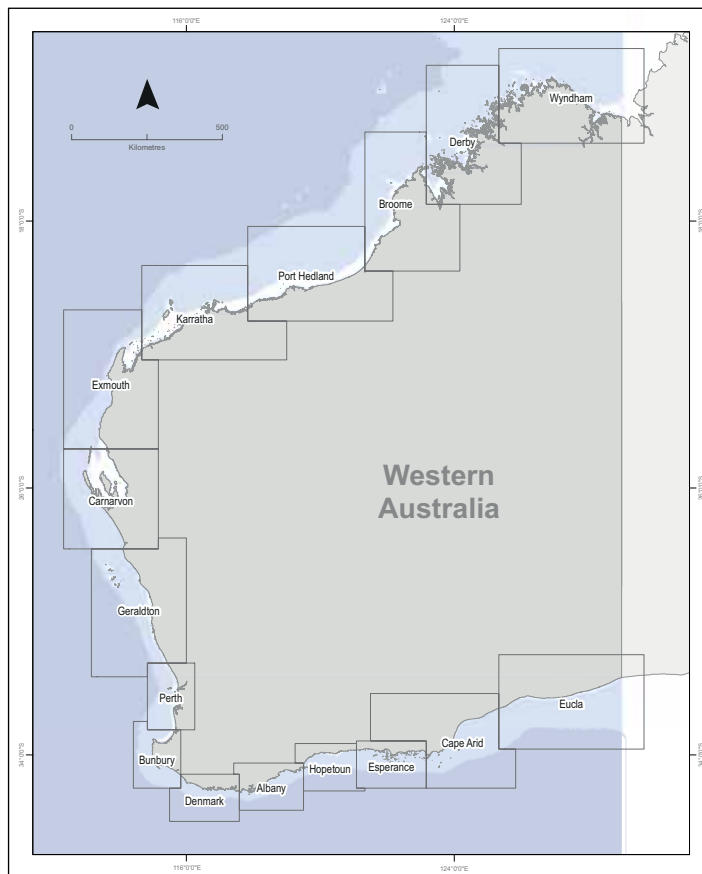
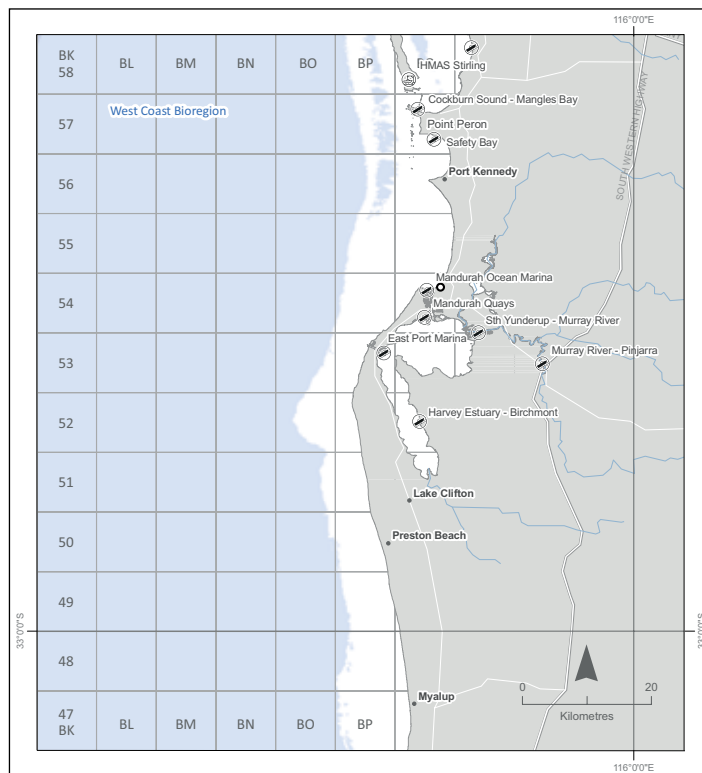
If you choose to provide a name instead of grid reference, then a town name, e.g. Jurien Bay or Lancelin is sufficient. Please be more specific than 'Sandy Beach' or 'Rocky Point' – you'd be surprised how many beaches there are in WA with the same name!

When fishing in the Swan or Canning rivers, including the suburb where you are fishing is adequate. But feel free to include specific jetties or landmarks if you prefer.

Happy Fishing!

Top right: Using grid maps – if you fish at Preston Beach, for example, you can report your fishing location as "BP 50".

Bottom right: There is a grid map for every location in WA.



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':

May 2013	Don Howe	(West Coast Bioregion)
June 2013	Jim Allison	(West Coast Bioregion)
July 2013	Matt Jackaman	(West Coast Bioregion)
August 2013	Peter Tuck	(West Coast Bioregion)
September 2013	Darryl Martin	(West Coast Bioregion)
October 2013	Scott Reid	(West Coast Bioregion)
November 2013	Robert Waugh	(West Coast Bioregion)
December 2013	Graeme Dove	(West Coast Bioregion)

Each winner will receive Department of Fisheries Research merchandise.

Thank you for your ongoing support and happy fishing!

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

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Fish for the future