



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

Drakesbrook Weir Marron Enrichment/Restocking

In early 2009, Drakesbrook Weir, a popular marron fishing spot near Waroona, was completely drained for refurbishment works on the main wall. The Department of Fisheries, Freshwater Ecosystems Research Team has been responsible for destocking marron and native fish during this refurbishment, which should be completed by July 2010. The destocking process involved intensive trapping and netting over a 10 day period. Collected marron were then transported to holding ponds at the Pemberton Freshwater Research Centre (PFRC). Similarly native fish were also collected and were transported to the Shenton Park research Station where they will be used as brood stock for future breeding programs.

Once moved to the Pemberton Trout Hatchery, the captured marron were kept for up to a year. Successful breeding resulted in a ten-fold increase of marron returned to the Drakesbrook Weir. In November 2009, an estimated 8,500 marron were restocked. All restocked adult marron were tagged so survival rates and abundances can be calculated in later surveys. Marron from Waroona Dam will

also be moved to Drakesbrook Weir to supplement numbers, whilst maintaining the same gene pool.

While Drakesbrook Weir was completely drained, The Department of Fisheries took the opportunity to liaise with Water Corporation and construct artificial habitats. Artificial rock habitats were placed in barren areas to increase juvenile marron survival, as they are particularly

susceptible to predation by fish and birds. Artificial habitats have also been used successfully in Waroona Dam, when it was drained for refurbishment works in 2003.

Post-restocking surveys will be used to determine the number of marron, and once these levels meet or exceed pre-draining numbers, Drakesbrook will be re-opened for marron fishing.

Cameron Hugh



A dry Drakesbrook Weir.



Marron being removed from the Weir prior to draining.

Fisher of the Month prize!

The RAP 'Fisher of the Month' prizes for December, January, February, March and April were decided by randomly drawing one log sheet returned in each month.

Congratulations to the following 'Fishers of the Month':

December – Brian Heterick (West Coast)

January – David Scott (South Coast)

February – Derek Alberts (Pilbara/Kimberley)

March – Bob Longmore (West Coast)

April – G. Cooper (South Coast)

Each winner will receive a RAP floating key ring and stubby holder together with a family pass to the Naturaliste Marine Discovery Centre. Future winners will be published in upcoming newsletters. Make sure you fill out your log book and get your returns in to ensure your chance of winning!

Garfish - Half a beak, twice the character



Garfish are a classic Australian inshore fish enjoyed by fishers of all ages, and there are 18 species of garfish, all belonging to the family Hemiramphidae. This name is derived from the Greek word *hemi*, meaning 'half' and *rhamphos* meaning 'beak' or 'bill'.

The most commonly caught garfish off WA's southwest is the southern sea garfish, *Hyporhamphus melanochir*. You would most likely encounter a gardie in shallow waters over weed beds. Seagrass habitat has been found to support a great diversity and abundance of fish and its role as a nursery has been well known for years. The garfish are believed to have a commensal relationship with seagrass, which means that they require seagrass for their survival, for feeding on and attaching their eggs to. Egg attachment does not harm the seagrass. The eggs of the southern sea garfish are quite large in comparison to the size of the fish, approximately 2-3 mm in diameter and covered in tiny filaments that

help to adhere the egg to the seagrass. In fact, if the eggs don't attach to vegetation, they will die. Once attached, the neutrally buoyant fixed egg is constantly flushed with fresh oxygenated water and not at the mercy of currents or predators.

Garfish prefer sheltered coastal waters including bays, inlets and estuaries with a good covering of seagrass or weed. If you have ever caught a garfish chances are you were close to a patch of seagrass. The easily accessible resource of seagrass not only provides great cover from predators but is also a source of food. Garfish also eat macroalgae if seagrass isn't available.

Seagrass is a major part of the diet of southern sea garfish even though it is of low nutritional value when compared to animal foods. Studies have shown that the southern sea garfish alternates between seagrass grazing during daylight hours and carnivorous hunting of crustaceans and other animals during the night.

The destruction of seagrass habitat is clearly a threat to garfish. Cockburn Sound and Albany's Princess Royal Harbour have lost significant seagrass habitat, around 80 per cent and 90 per cent respectively. The full impact of these losses on garfish will never be known but it must have been significant. Today major coastal developments continue to threaten seagrass and the animals that depend on it.

Cockburn Sound is still the most popular location for recreational garfish fishing in WA. It also hosts WA's largest commercial garfish fishery. It is possible that Cockburn Sound hosts a discrete (separate) breeding population. Recent research has found that southern sea garfish in South Australian waters occur as many small, discrete breeding stocks. Garfish larvae do not stray far from the seagrass where they were born and the adults may not migrate far either. This type of population structure makes garfish susceptible to localised overfishing.

The current status of the garfish population in Cockburn Sound is not clear, but a slight downward trend in the commercial catch rate suggests some decline in numbers over the last 14 years (See Fig. 1). The data being recorded by recreational logbook fishers will provide extra information to better understand the health of this vulnerable fish population.

Dan Pupazzoni



Seagrass. Photo: Michael Burgess

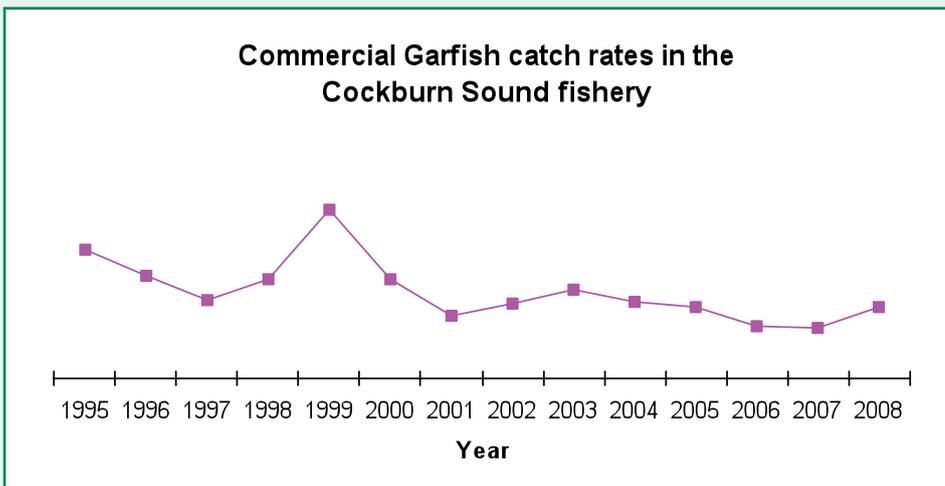
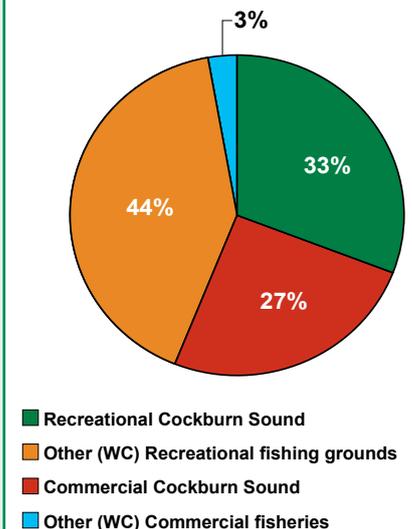


Figure 1.

Garfish landings as a percentage in the West Coast Bioregion for the Recreational and Commercial sectors.

"Data was collected from the most recent recreational garfish fishing survey conducted in 2000/01"



Progress of the West Coast Demersal Scalefish Fishery Monitoring Program

In the last three years, two stock assessments have been conducted on the indicator species (West Australian dhufish, pink snapper and baldchin groper) for the West Coast Demersal Scalefish Fishery. The assessments demonstrated that the stocks of demersal species are overexploited and at high risk of collapse. This led to changes to the management of each sector of the fishery.

For example recreational adjustments were made to bag limits and a two-month seasonal closure was introduced. There is now limit restriction on the number of fishers in the commercial sector, who can only fish for a specified number of hours per year and can no longer fish in the Metropolitan zone. The goal of all these changes is among others to reduce fishing effort and thus catch by at least 50 per cent, to allow the stocks of demersal species in the West Coast Bioregion to recover.

The Department's research staff are collecting fish frames (skeletons) of West Australian dhufish, pink snapper and baldchin groper from recreational and commercial fishers to conduct another stock assessment in 2012 to look for signs of recovery. We know that with these long-lived species, that will take some time.

The figure on the right shows that for the recreational sector in the 2009/10 financial year, we haven't reached our ideal target of 500 West Australian dhufish, pink snapper and baldchin groper in each of the required zones. The numbers are below those collected in the 08/09 financial year and this may be a result of the changes to fishing rules. About 100 recreational fishers have been very supportive and enthusiastic with their assistance to the program this year. We have however reached our targets from the commercial sector in the Mid-west and Kalbarri zones.

The frames that are provided are crucial to be able to determine with certainty whether the stocks are recovering. Your support will help to ensure that we have a clear understanding of the status of stocks in the fishery and that it remains sustainable, so that current and future generations can continue to catch these iconic species. We are extremely grateful for all the support we have received and hope that recreational fishers will continue to donate frames in the future. Please encourage your friends and family to support this vital research.

Donate frames and win prizes

Between now and 30th June 2011, researchers at the Department of Fisheries need frames of West Australian dhufish, pink snapper and baldchin groper to provide the required biological information (length, sex, age, etc), for our next stock assessment in 2012. The map shows which species we need from the different zones

in the West Coast Bioregion. In particular, we desperately need frames from the Metropolitan and South-west zones.

To be eligible for prizes, fish frames (with guts intact) should be bagged and tagged with a label that details the following essential information:

- **Who caught the fish** (Name, phone number and address)
- **When the fish was caught** (Date)
- **Where the fish was caught** (distance and bearing from port and the name of the port or latitude /longitude).

For each correctly labelled dhufish, pink snapper and baldchin groper frame that you donate before 30th June 2011, you will go into each of our quarterly prize draws for fishing gear, tackle shop vouchers and a trip on a research vessel.

To find out where you can drop off frames, either go to the Department of Fisheries website (www.fish.wa.gov.au) and click on the Go Fishing for Science - Send us your skeletons icon, or please contact

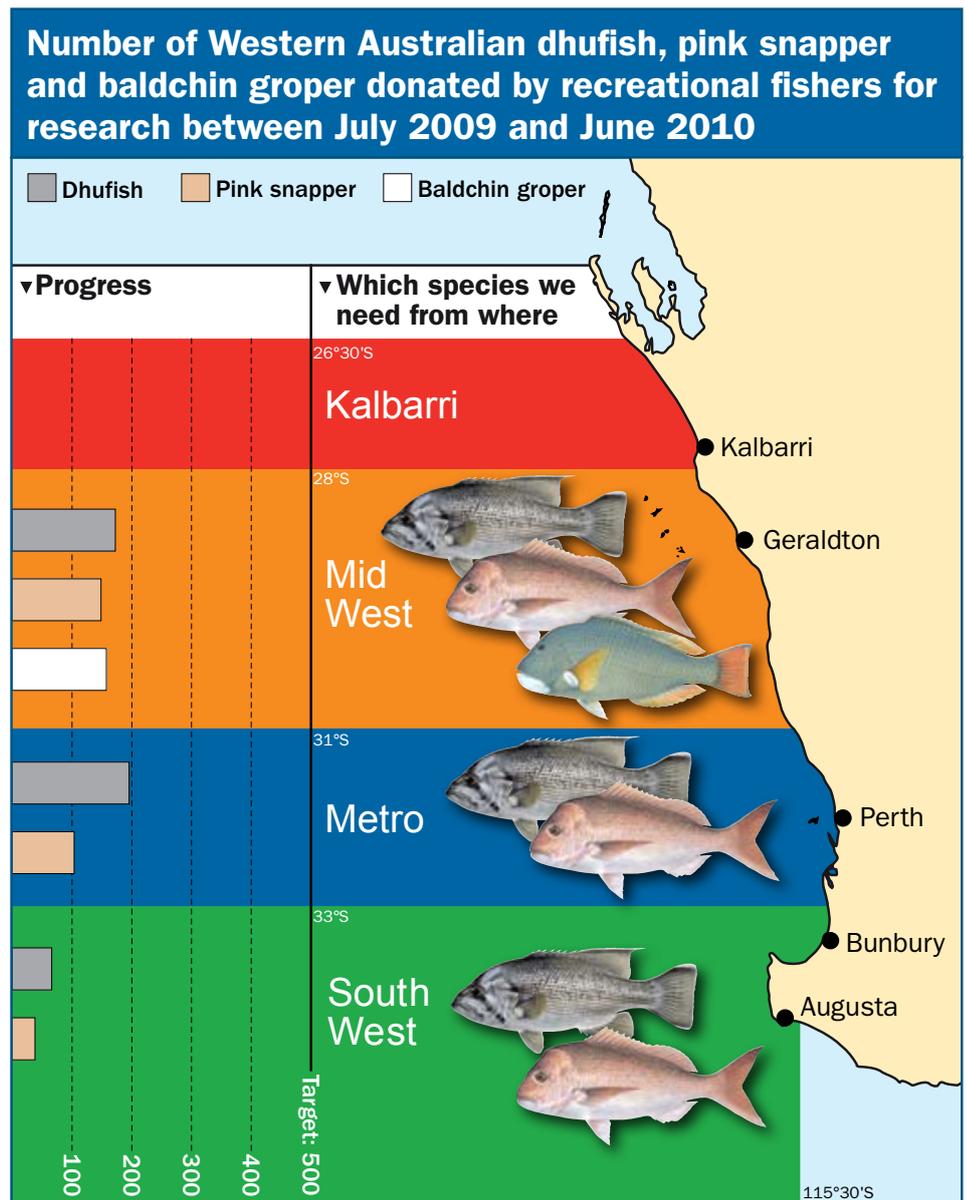
the Department of Fisheries Research Division on **9203 0111** or by email at **ResearchVolunteers@fish.wa.gov.au**. We can send out sample bags and tags, along with more information on the project.

Have you caught a herring, tailor or garfish lately?

Researchers are also collecting Australian herring, tailor and Southern Sea garfish from the West and South Coast bioregions to investigate the status of their stocks. You can win more prizes by donating their frames in the same way as for the demersal species.

Each correctly labelled fish puts you into a prize draw in September 2010. Prizes include \$500 worth of tackle store gift vouchers and passes to the Naturaliste Marine Discovery Centre at Hillarys. Winners will be notified by phone. Entries end either on 31st August 2010 or when we reach our target (300) for each species in each bioregion/zone.

Dave Fairclough & Brett Crisafulli



What it takes to be a Fisheries and Marine Officer

Fisheries and Marine Officers – or FMOs as they are called, ensure people comply with fishing and marine safety rules. But as the public face of the Department of Fisheries, they also play a vital role in developing community awareness and understanding of why we have rules to protect Western Australia's amazing fishing and aquatic resources.

FMOs need to be physically fit and able to deal with all manner of difficult and challenging situations; potentially hostile environments as well as a diverse range of cultures.

The FMO selection process takes around seven months and involves a wide range of tests – including gruelling swimming and heavy lifting tests, as well as the infamous 'beep test' that involves continuous running between two points at a faster and faster pace to ever shorter timed intervals. It's the kind of fitness test boxers and soldiers are put through.

Other physical tests involve free diving down 10 metres and retrieving various objects, as well as towing a person who isn't moving 100 metres in the water in less than four minutes. Communication skills – a core ability – are also thoroughly tested.

Once in the post, on-the-job training covers a wide range of disciplines and scenarios, including mock apprehensions and learning fisheries legislation inside out and then backwards.

So what does a typical day consist of?

"There's no typical day," grins Mark Butler, an FMO based at Hillarys. "You can find yourself on a land patrol – checking the boat ramp for marine safety issues and recreational fish catches, checking rock walls for people line-fishing for undersize or bag limits, that sort of thing. You could be covering the marine park sanctuary areas or you might jump on commercial boats if they come into a marina to check them for their catches."

According to Mark, illegal net fishing to this day is surprisingly common.

"In the Swan, it could be just a throw net, but you do get some set nets that



Marine dream – FMO Mark Butler on the water at Hillarys Boat Harbour doing the job he loves. Photo: Ben Carlish

people put across targeting black bream or cobbler – and of course the river has been completely closed to cobbler take," he says.

Many of these apprehensions result from tip-offs from members of the public using the FishWatch number, a dedicated 24-hour hotline for people to report illegal or suspicious fishing activity. As Mark explains, the public's positive response to the hotline encouragingly continues to grow.

"The public is becoming so much more aware and concerned with the fish population and what's going on with it, that we do tend to get quite a few tip-offs through FishWatch," comments Mark.

In fact, one tip-off recently led to the prosecution of an offending fisher who had 42 illegal size snapper in their possession. The tip-off came from another fisher, again an encouraging sign.

If you suspect someone of carrying out illegal fishing activity, call FishWatch on **1800 815 507**.

The full story on 'Mark Butler, Fisheries and Marine Officer' can be found in the December 2009 edition of *Western Fisheries*, WA's journal of fishing and the aquatic environment - available from Department of Fisheries offices, select newsagents and the Department's website at www.fish.wa.gov.au

Ben Carlish, Western Fisheries author

Monty Mackerel

My name is Monty Mackerel and I
Cruise quite near the beach
I catch occasional baitfish but
They're mostly out of reach

So when I saw this sardine
dangling in the sea
I thought oh goody hardyheads
That will do for tea

I swallowed down the teaserbait
The trace went with one nip
But one of her fancy little hooks
Caught me in the lip

That made me cross I leapt quite high
Trying to chuck the hook
The lady sitting on her stool
Shouted "oh just look"

There's a lovely silvery fish out there
doesn't he look fine
But suddenly felt an enormous tug
"My god he's on my line"

The line went whiz the rod went down
She fell clean off her chair
Someone said "hang on old girl"
As her legs went in the air

Let him go and tire himself
And give him lots of slack
She shouted "he's got most of my line"
How can I get him back?

I was off like a rocket going south
And was having lots of fun
But suddenly the line went very tight
And ended my dream run

Back and forth through the waves
Over ten minutes it took
Tugging and pulling try as I might
I couldn't get rid of the hook

Side to side through the sea
A fearsome tug of war
I was very rapidly tiring out
And my lower lip was sore

She eventually got me up the beach
And gazed at her beautiful fish
I'm a goner now but I know that I'll
End up as a tasty dish

Dr Mike Bray (RAP log book fisher)

THANK YOU FOR YOUR ONGOING SUPPORT. KIND REGARDS AND HAPPY FISHING

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Fish for the future