



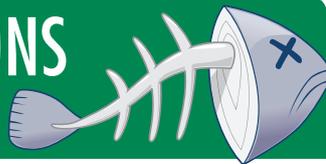
RESEARCH ANGLER PROGRAM

Newsletter No. 35
November 2016



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.

SEND US YOUR SKELETONS 2015/16 REVIEW



The *Send us your skeletons* (SUYS) program is now into its seventh year and remains an integral part of the monitoring program that the Department of Fisheries uses to determine the stock status of key fish species. In particular, it is critical to our monitoring of the recovery of demersal and nearshore species, such as West Australian dhufish and Australian herring.

SUYS is supported by hundreds of recreational fishers who donate their frames to research each year. In 2015/16, over 600 fishers from Kalbarri to Esperance donated

frames, which is fantastic (Fig. 1). The high numbers of fishers involved in SUYS helps to ensure that our total sample is representative of the whole stock of each of our key species. In particular, it's positive to see the increased number of drop-off locations being used throughout the Mid West for the demersal species, and we hope to see this continue.

It's great to see the donations of frames of demersal species from the South West area rise over this period (Fig. 2). Unfortunately, the number donated in the Metropolitan area has dropped since 2012/13.

Continued on page 2

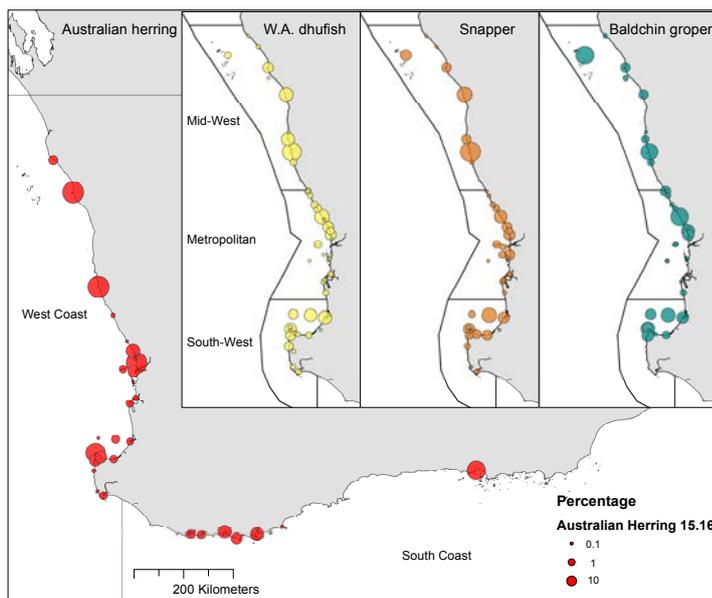


Figure 1. The percentage of frames of Australian herring donated by recreational fishers in 2015/16 from general locations of the West and South Coast Bioregions and of WA dhufish, snapper and baldchin groper from locations in each management area of the West Coast Bioregion. The size of each circle depicts the percentage of samples from a location in each area.

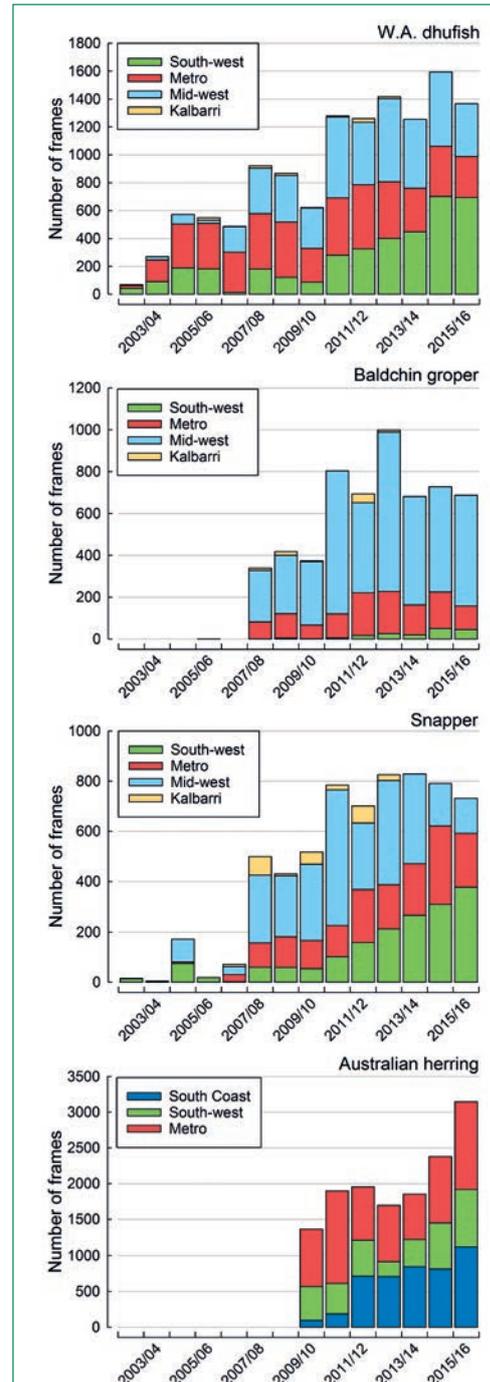


Figure 2. The number of WA dhufish, snapper, baldchin groper and Australian herring donated by recreational fishers in each area from 2002/03 to 2015/16.

We really need to collect more WA dhufish and snapper frames from the Metro area in 2016/17 so we can monitor the recovery of demersal stocks. Recreational fishers are our only source of demersal frames in this region.

In the Mid West, we are continuing to receive plenty of demersal frames from Jurien and we are starting to see more frames at our new drop-off locations, such as the Green Head General Store, Brolos lobster processors at Dongara and the Department's facility at Rat Island at the Abrolhos. We are grateful to those business operators and the

regional services staff in the Mid West for their help.

For the nearshore species, we have seen a marked increase in the number of herring frames donated from the Metro area all the way to Esperance (Figs 1 and 2). It's great to see more herring being donated as they are critical to monitor both the health of the stock and the effectiveness of recent management changes, which included reductions of both the recreational bag limit and commercial fishing.

The numbers of tailor and King George whiting (over 35 cm) donated has

unfortunately declined across most areas, except for King George in the South West. Traditionally, the numbers of tailor frames donated every year are too low for us to perform an age-based stock assessment. We are particularly interested in tailor from northern areas (Lancelin northwards), where we believe the majority of the tailor breeding stock lives. We hope the new drop-off locations in the Mid West (see next page) will boost the number of tailor frames donated from these areas so we can better understand the health of tailor stocks.

What happens to your donated fish?

Ever wondered what happens to your fish frames after you've donated them to the SUYS program? Every year we collect thousands of your frames from drop-off locations, boat ramps, fishing competitions and events around the west and south coasts of WA. For the majority of those frames, biological data are extracted at our research laboratory at Hillarys, but some are processed by our regional staff in Geraldton, Busselton or Albany.

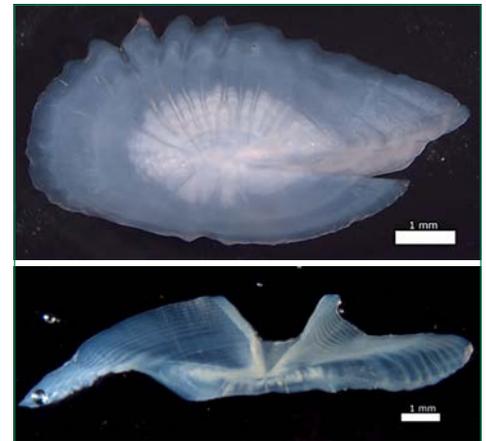
What's involved in collecting biological data from your frames to use in our stock assessments? Back at the lab, your catch is defrosted and we record your catch information, such as capture date and location. The total and/or fork length of the fish is measured to the nearest millimeter, depending on the shape of the caudal fin (tail). We then look at the reproductive organs (gonads) to see if the fish is male or

female and identify what stage of the spawning cycle the fish is at. Then we weigh the gonad, which also gives us an indication of its stage in the spawning cycle. Finally, we cut into the fish's skull to extract the important otoliths (ear bones).

The next step is to estimate your fish's age. Otoliths continue to grow throughout the fish's life and can reveal a lot of information. Due to different rates of growth across seasons, the otoliths form rings in much the same way trees do. Wide rings represent periods of relatively fast growth (summer) and narrow rings show slower growth when water temperatures are lower (winter). By counting these rings we can calculate the age of the fish.

For relatively short-lived species like Australian herring this process is

relatively simple because their otoliths can be read whole (see photo below).



A whole herring otolith (top) compared to a sectioned dhufish otolith (bottom) showing the annual rings visible when light is passed through the otolith. These otoliths have 2 and 11 rings, respectively.

For most other species, as they get older the otoliths become very thick and the annual rings get very close together, making them difficult to count in a whole otolith. For these species, we embed the otolith in epoxy resin and use a diamond tip sawblade to cut a thin (< 0.2 mm) section from the middle of the otolith (see photo). Using a microscope we count the number of rings and measure the distance between the outer ring (the last ring to be deposited) and the edge of the otolith. We then put this information, along with the capture date and estimated birth date of each fish, into an ageing formula to estimate the fish's age. To section one otolith takes time and as we examine about 15,000 otoliths per year, it's a lengthy process between removing an otolith and determining its age.



Grace Davis and Andrea Bertram process donated frames.

SUYS focuses on the Mid West



Holiday time at the Houtman Abrolhos Islands. Recreational fishers travelling to the HAI must notify the Department of Fisheries prior to entering the waters of the Abrolhos Islands Fish Habitat Protection Area, see the “Abrolhos Islands information guide” for more details.

An important focus of the SUYS program recently has been to improve the collection of samples from the Mid West (North of Lancelin), by having more drop-off locations. We need more frames from a wider spread of locations. Traditionally we have been very successful collecting samples from Jurien, and although these samples are very valuable to the program, we need more from elsewhere in the Mid West, such as Cervantes, Green Head, Leeman, Dongara, Geraldton, Port Gregory and the Abrolhos Islands. Since Indian Ocean Drive opened, this part of the coast is much more accessible and very popular with fishers, so we need to keep tracking the recovery of demersal stocks closely in the Mid West. This will help to ensure the best possible information to base our management practices on.

The Houtman Abrolhos Islands (HAI) host WA's most southerly true coral reefs. The colourful coral reefs, seagrass meadows, fish diversity and island life attract many people to the HAI every year. The popularity of the HAI as a holiday destination has increased in recent years, especially during holidays. This means there is a greater need for us to keep an eye on what's being caught, and what effect it is having on the local fish populations.

The SUYS program is a vital way of monitoring species like baldchin groper that are common at the Abrolhos. If you're out there, you can help us by dropping frames off at the Department of Fisheries Rat Island freezer (bags and tags provided) or to any Department of Fisheries patrol vessels you see. Or you can donate frames at a SUYS drop-off location back on the mainland. **Remember, frames do not count towards bag or possession limits and can be frozen.**

In the April school holidays, our researcher Brett Crisafulli joined regional staff on patrol at the Abrolhos. Brett's aim was to collect frames for SUYS and tell fishers how

important this is for ensuring healthy stocks at the Islands. Well over a hundred contacts were made with recreational and commercial fishers. We're very grateful to the fishers who donated their frames over that period and hope they stay involved. It was also great to listen to their perspectives and experiences of this uniquely West Australian place.

New drop-off locations in the Mid West

Batavia Coast Maritime Institute – Abrolhos Islands Research Institute

Willcock Drive, Separation Point, Geraldton 6531
(24hr access freezer located at rear of facility)

T: 0407 388 930

Department of Fisheries – Saville-Kent Centre

Rat Island, Houtman Abrolhos Islands

-28.715406, 113.788323

(24hr access freezer located on jetty)

T: 0407 388 930

Leeman Caravan Park

43 Thomas Street, Leeman 6514

T: (08) 9953 1080

Green Head General Store & Liquor

3 Green Head Road, Green Head WA 6514

T: 9953 1040

Brolos Live Lobster Processing Facility

Fisherman's Wharf, 5 McIntyre Cove, Port Denison

(24hr access freezer located at front entry)

T: 0407 388 930

Prizes

By donating your frames of the required species (see below) before July 1 2017, you could win prizes thanks to our generous partners. Montebello Island Safaris have again donated the major prize – a trip for two on a fishing charter to the Montebello Islands (including flights to Exmouth provided by the Department), worth about \$6000. There are also quarterly draws for vouchers and fishing rods from Fishing Western Australia, White Salt, Western Angler and Recfishwest/ Shakespeare/Bricap Distributors. Thanks to all of the SUYS partners for their contribution to the program over the years.

Place your frames in a bag (fresh or frozen). Label them with your name, number, email and address (so you can be entered into prize draws and we can send you our annual newsletter), the date and location of your capture (shore catch: general location; boat catch: latitude/longitude or distance and bearing from port and the name of the port). Information you provide about the location of your catch is confidential and only used for research purposes.

In the Metro area, you can drop frames north of the river at **Fishing WA Pro Tackle** (7 Dellamarta Way, Wangara 6065, T: 9409 2253) or **Bluewater Tackle World** (2/19-21 Honeybush Drive, Joondalup 6027, T: 6244 0344) and south of the river at **Getaway Outdoors** (Unit 5, 2938 Albany Highway, Kelmscott, 6111 T: 9495 4444).

There is a full list of drop-off locations for the West and South Coasts at www.fish.wa.gov.au/frames. Our staff in the regions may also be able to pick up frames: Rhys Allen (0407 388 930) in the Mid West, Kim Clayton (0419 192 101) in the South West and Tim Leary (0419 959 926) on the South Coast.

If you have any queries, drop us a line (customerservice@fish.wa.gov.au) or call **9203 0111** and keep an eye on our website (www.fish.wa.gov.au) for other SUYS updates. Sign up to the Department's Catch! e-news for fishing and fisheries news at <http://www.fish.wa.gov.au/Fishing-and-Aquaculture/Recreational-Fishing/Catch-E-Newsletter/Pages/default.aspx>.



West Australian dhufish
(*Glaucosoma hebraicum*)



Baldchin groper
(*Choerodon rubescens*)



Redthroat emperor
(*Lethrinus miniatus*)



(Pink) snapper
(*Chrysophrys auratus*)



Bight redfish
(*Centroberyx gerrardi*)



Australian herring
(*Arripis georgianus*)



Tailor
(*Pomatomus saltatrix*)



King George whiting
(*Sillaginodes punctatus*)
Over 35 cm in length

WC Species needed from the West Coast Bioregion
SC Species needed from the South Coast Bioregion

Donate frames of these species for a chance to win great prizes

Table 1. Major and quarterly prize winners for 2015/16

MAJOR PRIZES		
J. Wilson	T. Lake	
J. Hindle	B. Gardiner	
QUARTERLY PRIZES		
Jul 15 - Sep 15	G. Bird	J. Jackson
Oct 15 - Dec 15	M. O'Mara	S. McRae
Jan 16 - Mar 16	A. Mills	C. Smith
Apr 16 - Jun 16	B. Lyon	G. Harrison

Thank you for your ongoing support and happy fishing!

Nearshore and Estuarine Team

Kim Smith, Amber Quinn, Chris Dowling and Tim Leary

West Coast Demersal Team

David Fairclough, Brett Crisafulli, Elaine Lek, Rhys Allen and Kim Clayton

Email: customerservice@fish.wa.gov.au

Telephone: +61 (08) 9203 0111

Deliveries: 39 Northside Drive, Hillarys, Western Australia 6025

ABN: 55 689 794 771

www.fish.wa.gov.au



Fish for the future