



West Coast Demersal Scalefish Resource 2021 Stock Assessment– frequently asked questions

More than 10 years ago, it was recognised that the West Coast Demersal Scalefish Resource (WCDSR) was being overfished and a 20-year recovery plan was introduced.

In June 2021 the Minister for Fisheries approved the WCDSR Harvest Strategy, which outlines key milestones and harvest control rules to ensure recovery by 2030.

The Department of Primary Industries and Regional Development (DPIRD) recently published the 2021 stock assessment for WCDSR indicator species, dhufish and pink snapper (Fisheries Research Report No. 316). Stock assessments allow the performance of the resource to be evaluated against the harvest strategy to determine if recovery is on track or additional action is required.

What is the West Coast Demersal Scalefish Resource?

The WCDSR spans from north of Kalbarri to east of Augusta and out to the extent of the Australian Fishing Zone. The resource includes some of Western Australia's most iconic species such as West Australian dhufish, pink snapper and baldchin groper and provides some of the best recreational fishing experiences and high-quality seafood to local consumers.

What is a harvest strategy?

A harvest strategy brings together the key scientific monitoring, assessment and management measures used to make decisions for a particular aquatic resource. They promote transparent, proactive and decisive management to avoid reactionary or delayed decisions.

Because the WCDSR is in recovery, the harvest strategy also includes a recovery plan. For more information, take a look at the [harvest strategy](#).

How was the harvest strategy developed?

The harvest strategy for the WCDSR was developed by a stakeholder-based working group which included the Western Australian Fishing Industry Council (WAFIC), Recfishwest, Marine Tourism WA, recreational and commercial fishers and DPIRD.

As part of the process the draft harvest strategy was released for an eight-week public comment period. The Minister for Fisheries approved the final harvest strategy in June 2021.

What milestones are there to ensure recovery by 2030?

In order to recover by 2030, the following milestones must be met:

- **Step 1:** All indicator species exceeding or likely to exceed the Limit reference levels by 2020.
- **Step 2:** All indicator species exceeding or likely to exceed the Threshold reference levels by 2030.

If a milestone isn't likely to be achieved, the harvest strategy outlines what needs to happen to get the recovery of the WCDSR back on track.

What are recovery benchmarks?

Recovery benchmarks are the total fishing mortality (retained catch + post-release mortality) limits each sector needs to remain below each year to allow the WCDSR to recover by 2030. You can find the current recovery benchmarks for each sector in the [harvest strategy](#).

Science: monitoring and assessments

What do we measure in a stock assessment?

Stock assessments of finfish species capture a range of information, including:

- measurement of commercial and recreational fishery performance via, for example, comparisons of catch trends with catch limits, monitoring catch through commercial returns or recreational surveys.
- representative and adequate sampling of catches to obtain biological information e.g. age data, length data, spawning season and length-at-maturity.
- analysis of lengths and ages of fish in catches to evaluate trends in population characteristics and comparison of these with international standards.
- construction of population models to evaluate trends in fishing pressure and biomass (abundance) of stocks and comparison of these with international standards.

In each assessment, all of these analyses are used to identify the current sustainability of stocks and the risk of future depletion (i.e., a weight of evidence approach where all the lines of available data (evidence) are evaluated). This is used to inform whether management action is required to ensure ongoing sustainability.

For more information, take a look at the 2021 stock assessment of the WCDSR.

Why is it important to understand age structure?

A well-balanced age structure, where a good number of both juvenile and adult breeding fish are present, is one indicator of a healthy fish stock.

How do you know what the recreational catch is?

Every two to three years since 2005, DPIRD has been undertaking extensive surveys of boat-based recreational fishers. Since 2011, integrated surveys involving logbooks, boat ramp surveys and remote cameras, have been used to estimate boat-based recreational catch and effort across the State.

A summary of the 2017/18 survey results can be found on our [website](#).

How do you know what the charter catch is?

Since 2001 charter fishers have been required to fill in daily logbooks of their catch.

How do you know what the commercial catch is?

Commercial catch and effort in the West Coast Demersal Scalefish Interim Managed Fishery are monitored through daily/trip logbooks and a satellite-based vessel monitoring system (VMS). Before 2008, commercial catch and effort information was monitored through monthly returns. Similar requirements are in place for other commercial fisheries that take demersal scalefish in the West Coast Bioregion.

What is fishing mortality rate?

Fishing mortality rate is the proportion of fish in the stock that die each year from commercial, recreational and charter fishing activities.

What is spawning biomass?

Spawning biomass is the combined weight of all individuals in a fish population (usually females only) that have reached sexual maturity and are capable of reproducing.

What is total fishing mortality?

A portion of catch is retained, and a portion of catch is released/discarded (dead or alive) due to a range of reasons.

Post-release mortality is the portion of demersal scalefish that are released and subsequently die due to the impacts of fishing activities. A range of factors including species biology (such as susceptibility to barotrauma), depth of capture, capture and handling practices, hooking injuries and shark depredation influence the rate of post-release mortality.

Total fishing mortality is the combined mortality from both retained catch and post-release mortality from fishing activities.

The methods for calculating total fishing mortality for recreational (including charter) and commercial sectors can be found in Appendix 2 of the [harvest strategy](#).

What are 'indicator' species?

The WCDSR includes over 100 demersal scalefish species. To monitor the health of the resource a number of species are used as an indicator for how the resource is doing as a whole. These species are picked based on a higher vulnerability, current or future 'management risk' and social value.

Indicator species include dhufish, pink snapper and baldchin groper (inshore species) and hapuku, bass groper and blue-eye trevalla (offshore species).

What is impacting the recovery of the West Coast Demersal Scalefish Resource?

How is recovery tracking against the harvest strategy?

The 2021 stock assessment has found the WCDSR is not recovering fast enough to safeguard future sustainability. That while management arrangements have prevented further stock decline, pink snapper and dhufish are still at risk of further depletion under the current level of fishing.

Further management action is required to get the recovery back on track.

What about variable recruitment and changing environment?

Research has shown that one or two very abundant year classes of good recruitment (addition of fish to a stock as a result of reproduction, migration or growth to legal size) of pink snapper in 2007 and 2010 comprised over 40 per cent of recreational snapper catches in the metropolitan and south-west areas.

Adequate survival of these year classes to allow them to reproduce and contribute to future generations is critical to pink snapper recovery. Environmental change and extreme events (such as marine heatwaves) contribute to this variation in recruitment. This means that good recruitment 'pulses' like these may only occur once in every five to 10 years.

I catch only my bag limit when I go fishing, why does the science say the stocks aren't recovering?

In recent years, advancements in technologies have improved recreational anglers' ability to target and catch demersal scalefish. Improvements in technologies include more powerful and accurate echo sounders, radar, GPS with improved mapping, improved fishing tackle, electric reels and location holding devices to name a few. The advent of social media platforms has also meant that fishers are now able to share information and improved their fishing success better than ever before.

Essentially, recreational fishers have gotten better at finding and catching fish.

Current management

How are catches shared between the recreational and commercial sectors?

The resource is shared between recreational and commercial fishers under a formal allocation, with 36 percent allocated to the recreational (including charter) sector and 64 percent to the commercial sector.

For more information, take a look at the [harvest strategy](#).

Why has the recreational sector's (including charter) catch increased?

Despite the vast majority of individual anglers following the rules and fishing for the future, the combined recreational sector's retained catches of demersal scalefish are either at or above benchmark levels and, in the case of some species, have been for some time. This may be due to a number of following factors:

- there is no limit on effort in the recreational sector apart from a two-month closure;
- recreational catches of pink snapper in metropolitan and south-west waters are dominated by a large recruitment pulse;
- improvements in fishing technologies means recreational fishers are becoming more efficient at targeting and catching demersal scalefish;
- fishing behaviour has responded to existing rules in recent years, making them less effective at maintaining the overall recreational catch below recovery benchmarks; and
- recreational catches are likely to increase as stocks start to rebuild.

Why has the commercial sector's catch decreased in recent years?

There are a number of reasons why commercial catch is below lower thresholds:

- In 2014/15, entitlements were reduced in a number of commercial fisheries to decrease their catches of pink snapper and other demersal scalefish below recovery benchmarks.
- There has been limited recovery in the Mid-West and Kalbarri areas, making it harder to catch demersal scalefish viably in these areas.

What is DPIRD doing to reduce shark depredation impacting on demersal scalefish?

A project studying shark depredation and ways it can be reduced took place during 2020/21. Information on shark bite-offs and ways to minimise shark bite-offs can be found in our shark depredation fact sheet.

Were recovery measures introduced between 2007 and 2010 enough to recover the WCDSR?

The 2007 stock assessment of the status of the WCDSR was based on an estimate of fishing mortality compared to the rate natural of mortality. This assessment indicated that the WCDSR was being overfished and a significant reduction in catch (50% to 100%) was required to recover

stocks by 2030. Based on the information available at the time, the management response adopted a 50% reduction in catches.

For the first time, the 2021 assessment includes a biomass model of snapper and dhufish. This enables the size of the spawning biomass to be compared against that of an unfished stock to assess whether stock levels are sustainable. This model provides improved information to inform future decisions in line with the harvest strategy.

Future management

Now the stock assessment has been published, what happens next?

A stakeholder-based reference group, with membership from DPIRD, Recfishwest and the WA Fishing Industry Council (WAFIC), will review the 2021 stock assessment against the Harvest Strategy to determine an appropriate management response for consideration by Government.

Will this result in rule changes?

Yes, further action is required to recover the WCDSR by 2030. Making changes now will ensure that future generations will be able to enjoy quality fishing experiences and demersal scalefish for the table.

How will this affect recreational and commercial fishers?

After the Minister for Fisheries has considered the reference group's recommendations, DPIRD will work with Recfishwest, Marine Tourism WA and WAFIC on management options for the recreational, charter and commercial sectors, respectively.

You'll have an opportunity to comment on these management options during a public consultation period in early 2022.

Is there a need for improved catch monitoring in the future?

Consistent with the harvest strategy, management arrangements need to ensure that catches by both the commercial and recreational sectors are maintained within the target range and supported by an effective monitoring program to allow review on an annual basis. This will ensure fishing pressure into the future allows the WCDSR to recover by 2030.

How long will any management changes last for? When will they be reviewed?

Management changes will be introduced to allow recovery of the resource by 2030. The success of new arrangements to:

1. meet reduced recovery benchmarks - will be reviewed annually; and
2. meet recovery milestones - will be reviewed every three years following a stock assessment (next assessment due 2023).

For more information on review processes, take a look at the [harvest strategy](#).

Are there species that have better numbers, that are still good eating and ok to catch?

It's time to give demersal scalefish a break, but there are plenty of other species of fish that you can target and are great eating, including mackerels, shark, Australian salmon and western rock lobster.

What is the impact of Westport on WCDSR?

The Western Australian Marine Science Institution is undertaking a three-year research partnership worth \$13.5 million that aims to fill knowledge gaps, investigate potential impacts and improve understanding of the Cockburn Sound ecosystem (including pink snapper). The information will be used to inform future Environmental Impact Assessments and mitigate any potential environmental impacts.

Where can I find out more information?

Further information will be published as media releases and news items on the fish.wa.gov.au website. There will also be articles in the Catch! e-newsletter and the Fisheries WA Facebook page.

fish.wa.gov.au/recfishing

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