

# LEGISLATIVE COUNCIL

## Question Without Notice

**Tuesday, 14 February 2023**

**C055. Hon Colin de Grussa to the Parliamentary Secretary representing the Minister for Fisheries**

My question without notice of which some notice has been given is to the Parliamentary Secretary representing the Minister for Fisheries

I refer to the West Coast Demersal Scalefish Resource management arrangements currently being implemented by the McGowan Government, and I ask:

1. Specific to the recreational fishing sector, can the Minister please table the scientific data and calculation methodology used by government to determine:
  1. the new management measures set in place to ensure the sector will achieve its agreed 50% reduction in benchmark recovery levels;
  2. the per person and per boat bag limits for WA Dhufish.

---

### Agency Answer

1. The methodology used to determine the new management measures for recreational fishing for demersal scalefish in the West Coast Bioregion to achieve a 50 per cent reduction in benchmark recovery levels was primarily based on catch and effort information derived from periodic surveys over the last 10 years of boat based recreational fishing in Western Australia. The West Coast Demersal Scalefish Resource Consultation Paper released in August 2022 sets out the rationale behind the new management package.

I table this document.

2. WA dhufish and other demersal species are known to suffer from high levels of post release mortality with a high percentage of returned fish not surviving. Under the new management measures for the West Coast Bioregion, there is a mixed bag limit of two for individual fishers, both of which can be dhufish. The boat limit (excluding charter) where there are two or more licenced fishers for this region, is a mixed bag of four demersal scalefish, which can all be dhufish. These new measures are designed around fishers retaining the first demersal fish they capture up to these limits which will reduce discarding of fish and the overall level of fishing mortality for these species.





Department of  
**Primary Industries and  
Regional Development**

*We're working for  
Western Australia.*

# **West Coast Demersal Scalefish Resource Consultation Paper: Recreational (including Charter) Sector Proposed Management Package**

**August 2022**



## About this document

This consultation paper outlines a proposed management package for the recreational (including charter) sector to achieve revised recovery benchmarks (i.e. catch limits) and allow the West Coast Demersal Scalefish Resource (WCDSR) to recover by 2030. It follows phase 1 consultation from April-June that was led by Recfishwest and Marine Tourism WA (charter) to seek recreational fishers and charter licence holder's views on primary and supporting management measures and make recommendations to the Department of Primary Industries and Regional Development (DPIRD).

## Have your say

The Western Australian community and Fishing Tour Operator Licence (FTOL) holders are encouraged to have their say by making a submission.

## Making a submission

Submissions should be made online via the [YourSay](#) consultation hub. To complete the online submission form, you will need to register on [YourSay](#) first if you have not already registered.

Before you provide feedback, please read this consultation paper.

If you need more information before making a submission, you are encouraged to:

1. Read the frequently asked questions on the [YourSay](#) consultation hub.
2. Use the 'ask a question' section on the consultation hub to ask DPIRD a question.

Note: Submissions may be published online at the conclusion of the consultation process and cited in a publicly available report. Submitters who do not want their name published, or would like their submission to remain confidential, should clearly state this in their submission.

**Submissions close at AWST 5pm on Friday, 16 September 2022.**

If you are having difficulties making a submission, please email [wcdemersal@dpiird.wa.gov.au](mailto:wcdemersal@dpiird.wa.gov.au)

## Important disclaimer

The Chief Executive Officer of the Department of Primary Industries and Regional Development and the State of Western Australia accept no liability whatsoever by reason of negligence or otherwise arising from the use or release of this information or any part of it.

Copyright © Department of Primary Industries and Regional Development, 2022.

## Recreational (incl. charter) sector summary of proposals

### Primary measures to meet revised recovery benchmarks

Recreational primary measure proposals	<p>To recover the WCDSR by 2030, a limited recreational fishing season for demersal scalefish in the West Coast Bioregion be implemented over:</p> <ol style="list-style-type: none"> <li>1. A 94 day recreational fishing season for demersal scalefish, opening from 15 December to 15 January and from 20 March to 20 May.</li> </ol> <p>OR</p> <ol style="list-style-type: none"> <li>2. A 123 day recreational fishing season for demersal scalefish, opening from 1 April to 31 May and from 15 August to 15 October.</li> </ol>
Charter primary measure proposals	<ol style="list-style-type: none"> <li>1. Implement a tag system for the Charter Fishery in the West Coast Zone defined by numbers of demersal scalefish each year.</li> </ol> <p>AND</p> <ol style="list-style-type: none"> <li>2. Any investment in the Charter Fishery after 18 February 2022 may not be taken into account in determining access and allocation of demersal scalefish tags in the West Coast Zone.</li> </ol> <p>AND</p> <ol style="list-style-type: none"> <li>3. DPIRD engage independent expert(s) to consider matters of access and allocation related to the implementation of a demersal scalefish tag system for the Charter Fishery in the West Coast Zone, including consultation with FTOL holders.</li> </ol>

### Supporting measures for both recreational and charter fishers to reduce the need to release demersal scalefish, provide targeted spawning protection and support the recovery

1. Maintain a mixed species daily bag limit of two demersal scalefish in the West Coast Bioregion.
2. Remove individual demersal scalefish species daily bag limits in the West Coast Bioregion (including dhufish).
3. Remove the dhufish boat limit for boat-based recreational fishers and charter boats.
4. Introduce a demersal scalefish boat limit in the West Coast Bioregion of three times the mixed species daily bag limit (i.e. maximum of six demersal scalefish) for boat-based recreational fishers.
5. Remove size limits for demersal scalefish species with post-release mortality rates equal to, or above 50%.
6. Allow a maximum of one bait or lure per line when fishing for demersal scalefish in the West Coast Bioregion.
7. Extend the timing of the pink snapper spawning closure in Cockburn and Warnbro Sounds, applicable to all fishing sectors, to 1 August to 31 January.
8. Shift the timing of the baldchin groper annual spawning closure at the Abrolhos Islands, applicable to all fishing sectors, to 1 October to 31 December.
9. Implement a recreational fishery monitoring program to provide timely estimates of catch and effort for recreational fishing in the WCDSR to support an annual review process.
10. Prioritise transition of Charter Fishery reporting from paper-based logbooks to electronic reporting to support an annual review process.
11. Develop a research program to prioritise, fund and resource projects to support the recovery of the WCDSR.
12. Implement a multi-year education program to support fisher behavioural change towards responsible fishing practices.

## 1. Introduction

The West Coast Demersal Scalefish Resource (WCDSR) comprises of 100 demersal scalefish species in marine waters from north of Kalbarri (26° 30' S) to east of Augusta (115° 30' E). The resource includes some of Western Australia's (WA) 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 domestic consumers.

The [West Coast Demersal Scalefish Resource Harvest Strategy 2021-2025](#) (Harvest Strategy) outlines the objectives, milestones and control rules to allow the WCDSR to recover by 2030. There are two key management strategies to recover the WCDSR:

1. Maintain each sectors fishing mortality below their recovery benchmark (i.e. catch limit); and
2. Provide targeted protection for key spawning aggregations.

Fishing mortality accounts for the combined mortality associated with both retained catch and the proportion of released catch that do not survive (i.e. post-release mortality) as a result of fishing. Further information on the monitoring of WCDSR fishing mortality is outlined in the Harvest Strategy.

A formal resource allocation has been determined for the WCDSR, with 36% of the WCDSR recovery benchmark allocated to the recreational (including charter) sector and 64% allocated to the commercial sector. Under the Harvest Strategy, the recreational sector recovery benchmark is shared between the recreational (85%) and the charter (15%) fisheries.

The Department of Primary Industries and Regional Development (DPIRD) tracks recovery progress by undertaking stock assessments of WCDSR indicator species every 3-5 years. The [2021 WCDSR stock assessment](#) provided an important health check on the recovery status and found further management action is required to allow the WCDSR to recover by 2030. A [summary of the 2021 WCDSR stock assessment](#) is available on the DPIRD website.

## 2. Action to allow recovery by 2030

To allow the WCDSR to recover by 2030 [the Minister for Fisheries has approved](#):

- A reduction in the WCDSR recovery benchmark from 750 tonnes to 375 tonnes;
- 135 tonnes be allocated to the recreational (including charter) sector and 240 tonnes be allocated to the commercial sector (Table 1); and
- A 50% reduction in recovery benchmarks for key inshore demersal species (Table 1).

**Table 1.** Revised total fishing mortality (retained catch + post-release mortality) recovery benchmarks for the WCDSR and key species.

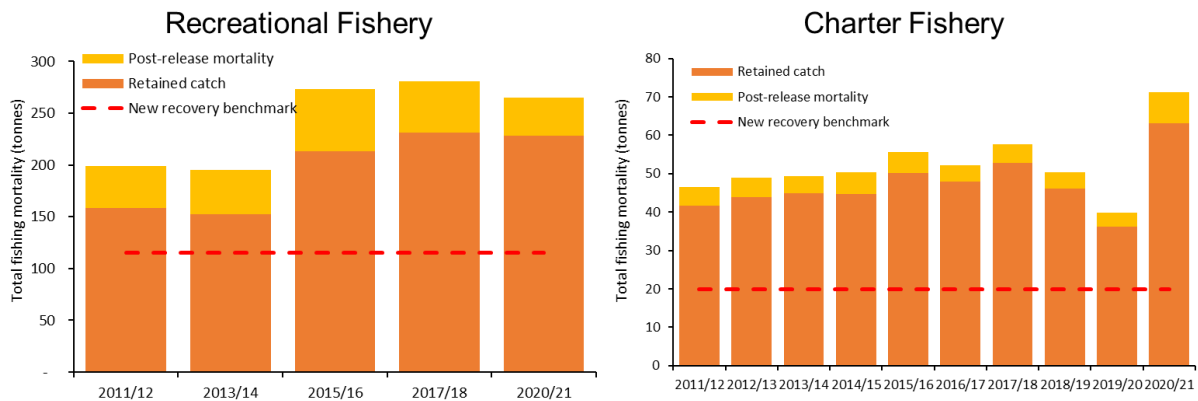
Sector	Inshore demersal						Offshore demersal suite	WCDSR total
	Dhufish	Pink snapper	Baldchin groper	Redfish species	Breaksea cod	Emperor species		
Recreational	68 t	19 t	20 t	3.5 t	7.5 t	5.5 t	5 t	135 t
Commercial	45.5 t	69 t	11 t	21 t	1.5 t	51 t	40 t	240 t
<b>WCDSR</b>	<b>113.5 t</b>	<b>88 t</b>	<b>31 t</b>	<b>24.5 t</b>	<b>9 t</b>	<b>56.5 t</b>	<b>45 t</b>	<b>375 t</b>

Proposed management packages for the recreational sector and commercial sector have been developed to achieve revised recovery benchmarks (Figure 1) and allow the

WCDSR to recover by 2030. This management package outlines recreational (including charter) sector proposals including:

- Primary and supporting measures to meet the recreational (including charter) sector's revised recovery benchmark of 135 tonnes (Section 3).
- Targeted protection for key spawning aggregations (Section 4).
- Measures to improve understanding and support the recovery (Section 5).

A proposed management package for the commercial sector is available on the [YourSay](#) consultation hub.



**Figure 1.** WCDSR fishing mortality (retained catch + post-release mortality) by the recreational (left) and charter (right) fisheries. Red dotted line shows revised recovery benchmark for the recreational (115 tonnes) and charter (20 tonnes) fisheries. Catches in 2021 are preliminary estimates.

### 3. Measures to meet revised recovery benchmarks

A key strategy to recover the WCDSR by 2030 is to maintain each sector's fishing mortality (retained catch + post-release mortality) below their recovery benchmarks. The following primary and supporting measures have been developed as an outcome of phase 1 consultation to meet the revised recovery benchmark of 135 tonnes for the recreational (including charter) sector.

Primary measures are adjustable tools that ensure each sector continues to meet their recovery benchmark, ensuring fishing pressure is at levels that allows the WCDSR to recover by 2030. Each sector's fishing mortality is monitored against recovery benchmarks through the Harvest Strategy annual review process.

#### 3.1 Phase 1 consultation outcomes

During phase 1 consultation, peak sector bodies Recfishwest, Marine Tourism WA and WAFIC were tasked with seeking recreational, charter and commercial fisher ideas and views on preferred measures to achieve their sector's recovery benchmarks and allow the WCDSR to recover by 2030. Preferred primary measures recommended by Recfishwest and Marine Tourism WA have been used in the development of the proposed management package for the recreational (including charter) sector to meet the revised recovery benchmark. This includes preferred recreational primary measures of open seasons and individual fishing day limits and preferred charter primary measure of individual catch limits (i.e. quota/tags). Individual catch limits for the recreational fishery and effort limits for the charter fishery were not supported as an outcome of phase 1 consultation.



## 3.2 Recreational primary measures to meet revised recovery benchmark

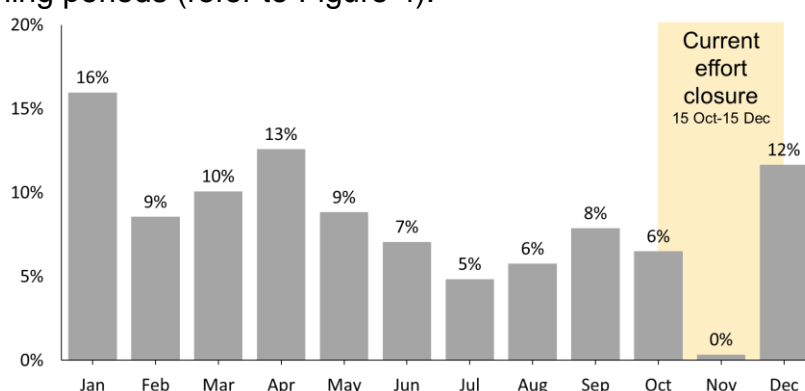
Below is a summary of primary measure options for the recreational fishery to meet their revised recovery benchmark of 115 tonnes.

### 3.2.1 Limited recreational fishing seasons

This primary measure limits the length of the open season(s) to fish for demersal scalefish each year to meet the revised recovery benchmark and allow the WCDSR to recover by 2030.

The current open season for demersal scalefish in the West Coast Bioregion is 10 months. The appropriate timing of a fishing season needs to take into account factors such as:

- times of social and economic significance;
- seasonal variations in fishing activity (Figure 2); and
- peak spawning periods (refer to Figure 4).



**Figure 2.** Average proportion of annual catch of demersal scalefish taken monthly in the West Coast Bioregion by boat-based recreational fishers. Note the current recreational season for demersal scalefish in the West Coast Bioregion is open from 16 December to 14 October (inclusive). Source: [Statewide recreational boat fishing surveys](#) in [2011/12](#), [2013/14](#) and [2015/16](#) and [2017/18](#).

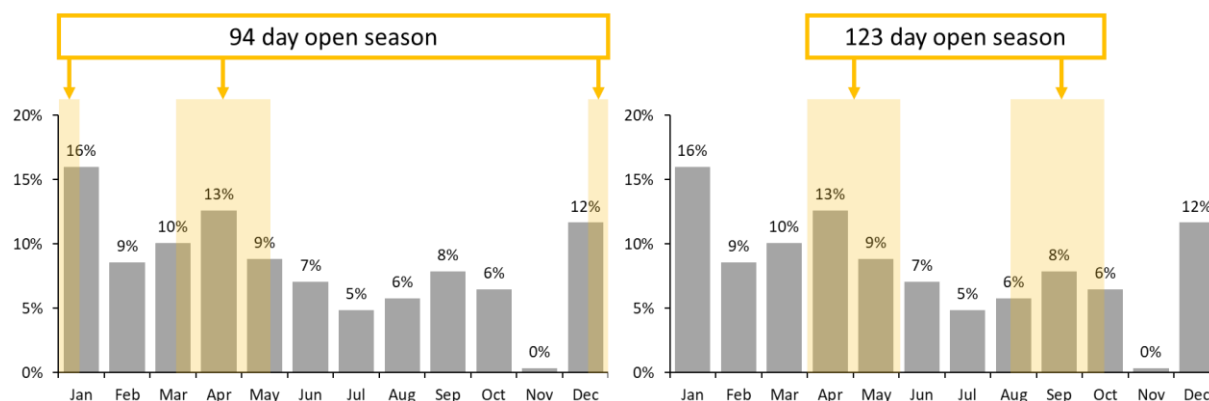
Considerations for a limited recreational fishing season(s) for demersal scalefish include:

- Recreational fishing seasons control effort by providing a set number of fishing days for demersal scalefish in the West Coast Bioregion to meet the revised recovery benchmark of 115 tonnes.
- Two limited recreational fishing season proposals have been developed, Proposal 1 seeks to maximise opportunities to fish for demersal scalefish over the most popular Summer and Autumn seasons and Proposal 2 seeks to maximise additional biological benefits by timing open seasons to avoid peak spawning periods of key WCDSR species (Figure 4).
- Recreational fishing seasons for demersal scalefish do not stop recreational fishers fishing for other non-demersal species. There are a range of alternative recreational fishing experiences available in the West Coast Bioregion including abalone, blue swimmer crab, marron, nearshore/estuarine fish, rock lobster and large pelagic finfish.

### Recreational Primary Measure Proposals:

To recover the WCDSR by 2030, a limited recreational fishing season for demersal scalefish in the West Coast Bioregion be implemented over:

1. A 94 day recreational fishing season for demersal scalefish, opening from 15 December to 15 January and from 20 March to 20 May.  
OR
2. A 123 day recreational fishing season for demersal scalefish, opening from 1 April to 31 May and from 15 August to 15 October.



**Figure 3.** Summary of limited recreational fishing seasons for demersal scalefish in the West Coast Bioregion based on recreational primary measure proposal 1 (left) and recreational primary measure proposal 2 (right). Percentages are the average proportion of annual catch of demersal scalefish taken monthly in the West Coast Bioregion by boat-based recreational fishers.

### 3.2.2 Individual fishing effort limits

This primary measure aims to constrain individual recreational fisher effort on the WCDSR to meet revised recovery benchmarks and allow the WCDSR to recover by 2030. Typically this would be done through a registration type system where recreational fishers would be required 'log on' to notify DPIRD that they were intending to fish for demersal scalefish (see Section 5 for further information).

Preliminary information on participation from the [Statewide Recreational Fishing Survey](#) from 2011 to 2021 indicates, on average 69,000 RBFL holders fished in the West Coast Bioregion each year and 40,000 RBFL holders fished for demersal scalefish in the West Coast Bioregion each year.

The revised recovery benchmark of 115 tonnes for the recreational fishery (excluding charter) equates to a retained catch of 34,000-40,000 demersal scalefish, depending on species release rates, composition and average size. Noting there is a mixed daily bag limit of two demersal scalefish, available effort for the recreational fishery is likely to be 1-2 days fishing for demersal scalefish per year, per RBFL holder in the West Coast Bioregion. This measure is not considered appropriate to implement at this time and is not being considered as a primary measure to achieve the revised recovery benchmark.

### 3.3 Charter primary measure to meet revised recovery benchmark

Individual catch limits were recommended through phase 1 consultation as the preferred primary measure for the charter fishery to meet its revised recovery benchmark of 20 tonnes. Individual catch limits are typically implemented under a quota or tag system, providing a limited number of demersal scalefish to be retained per charter licence. Under a tag system, the revised charter recovery benchmark of



20 tonnes equates to a retained catch of 7,120 demersal scalefish for the Charter Fishery.

Considerations for an individual catch system for the charter fishery include:

- A tag system, defined in numbers of fish, will manage the charter fishery retained catch of demersal scalefish to an explicit level each year.
- An individual catch system provides flexibility for charter businesses by allowing fishing for demersal scalefish during any recreational fishery effort closures.
- A limited number of fish available for each of the 99 charter licences in the West Coast Zone may require consideration for further restrictions on access to, and allocation of available demersal scalefish quota between charter licence holders in the West Coast Zone.
- The number of demersal scalefish available for the charter fishery each year to meet its revised recovery benchmark will be subject to the Harvest Strategy annual review process which may result in capacity changes (increase or decrease) over time.

**Charter primary measure proposal:**

1. Implement a tag system for the Charter Fishery defined by numbers of demersal scalefish each year.

### **3.2.1 Charter Fishery access and allocation to demersal scalefish in the West Coast Zone**

FTOL's are currently able to provide clients with a wide range of fishing experiences as part of their fishing tour operations. While some charter licences are specialised to provide fishing tours for demersal scalefish or rock lobster on day or extended tours, there are opportunities to diversify fishing experiences on charter to other pelagic or nearshore finfish and invertebrate resources. To allow the WCDSR to recover, the new recovery benchmark of 20 tonnes of fishing mortality for the Charter Fishery may require a review of access arrangements and the allocation of demersal scalefish quota between a limited number of FTOL's based on operational history to ensure there remains a viable industry.

**Charter primary measure proposals:**

2. Any investment in the Charter Fishery after 18 February 2022 may not be taken into account in determining future access and allocation of demersal scalefish tags in the West Coast Zone.  
AND
3. DPIRD engage independent expert(s) to consider matters of access and allocation related to the implementation of a demersal scalefish tag system for the Charter Fishery in the West Coast Zone, including consultation with FTOL holders.

### **3.4 Supporting measures to reduce fishing mortality**

With primary measures proposed in section 3.2 and 3.3 to meet recreational sector revised recovery benchmarks, there is scope to adjust measures that reduce the need to release demersal scalefish and improve amenity when fishing for demersal scalefish. This section outlines proposed supporting measures that reduce the need to release demersal scalefish to reduce post-release mortality by the recreational (including charter) sector to support recovery of the WCDSR by 2030.

Since 2011/12, an average of 122,000 demersal scalefish are released each year by the recreational (including charter) sector in the West Coast Bioregion. Of these, it is

estimated that an average of 49,000 demersal scalefish die each year following release (i.e. post-release mortality) or during capture due to a range of factors such as species susceptibility to barotrauma, depth of capture, capture and handling practices, hooking injuries and shark depredation.

Around 78% of 122,000 demersal scalefish are released each year by the recreational sector as required under the current management settings (i.e. size, bag and boat limits). While the remaining 22% are released due to fishing behaviour (i.e. personal preference, catch and release fishing or other reasons) (Table 2). To maximise the utilisation of this resource and reduce the 49,000 demersal scalefish dying each year from post-release mortality:

- Proposed primary management measures (section 3.2 and 3.3) should limit fishing effort or retained catch to meet revised recovery benchmarks to allow the WCDSR to recover by 2030;
- Supporting measures that regulate fishing on the water for recreational, charter and commercial fishers should minimise the need to release demersal scalefish (and associated post-release mortality); and
- A significant fisher education program is required to promote [catch care](#) principles and (see Section 5) instigate behavioural change to responsible fishing practices for demersal scalefish (i.e. keep the first two demersal scalefish you catch, stop fishing for demersal scalefish once you reach your bag limit and don't practice catch and release fishing for demersal scalefish).

**Table 2.** Reasons for release of WCDSR species by RBFL holders. Source: Average from [Statewide recreational boat fishing surveys](#) in [2013/14](#), [2015/16](#) and [2017/18](#). Rows may not add to 100% due to rounding.

Species	Too small	Under size	Too many	Over limit	Other
Dhufish	7%	70%	5%	16%	3%
Baldchin groper	10%	70%	6%	12%	3%
Pink snapper	6%	80%	6%	5%	4%
Coral trout	8%	56%	9%	11%	15%
Coronation trout	48%	34%	8%	0%	12%
Western blue groper	41%	45%	4%	5%	6%
Breaksea cod	13%	63%	9%	8%	7%
WCDSR top 15 species	7%	67%	9%	11%	7%

### 3.4.1 Bag limits

Bag limits aim to limit the number of demersal scalefish per licensed fisher per day. The current mixed species daily bag limit is two demersal scalefish in the West Coast Bioregion. There are also a number of species that are subject to a daily bag limit of one, within the current mixed species daily bag limit, such as dhufish, coral trout, coronation trout and Western blue groper. These bag limits have reached a practical limit. Any reduction in bag limits is likely to lead to changes in fishing behaviour that increases release rates of demersal scalefish and associated post-release mortality. This will be exacerbated with high grading and catch and release fishing.

Bag limits have a limited capacity to manage catch from the recreational sector where effort is unlimited. However, with the introduction of primary measures to limit effort (see proposals in section 3.2 and 3.3) there is scope to consider supporting

management measures that regulate fishing on the water to reduce the need to release demersal scalefish and subsequently reduce the post-release mortality component of the catch.

**Supporting measure proposal 1:** Maintain a mixed species daily bag limit of two demersal scalefish in the West Coast Bioregion.

Mixed species daily bag limit considerations:

- Provides fishers with the opportunity to catch a feed of demersal scalefish.
- Phase 1 consultation highlighted that a mixed species daily bag limit of two demersal scalefish is a socially acceptable limit and any further reductions will impact on fishing experiences and likely lead to an increase in release rates.
- Will not contribute to any reductions in fishing mortality.

**Supporting measure proposal 2:** Remove individual demersal scalefish species daily bag limits in the West Coast Bioregion.

Individual species daily bag limit considerations:

- Allows recreational and charter fishers to keep the first two demersal scalefish they catch.
- Reduces the need to release a dhufish, coral trout, coronation trout or Western blue groper if you have already caught one of these species within the mixed species daily bag limit.
- May reduce post-release mortality of dhufish by up to 16%. However, if the proposed primary measures (see section 3) to limit recreational effort are not imposed to the extent required, retained catch of dhufish will increase, resulting in an increase fishing mortality for dhufish.
- Species bag limits for coral trout, coronation trout and Western blue groper within the mixed species daily bag limit are ineffective in the West Coast Bioregion as a limited number of these species are released due to being above the bag limit.

### 3.4.2 Boat limits

Boat limits aim to limit the number of demersal scalefish per boat. Boat limits are generally applied in WA (i.e. rock lobster, blue swimmer crabs) based on either two or three times the daily bag limit. There is currently a dhufish boat limit of two dhufish on recreational boats and six dhufish on charter boats in the West Coast Bioregion. The boat limit for dhufish has reached a practical limit. The current dhufish boat limit requires recreational and charter fishers to release a dhufish if they have caught their boat limit but continue to fish for other demersal scalefish within their mixed species daily bag limit. Furthermore, boat limits for individual species within a mixed species fishery is likely to lead to changes in fishing behaviour that increase release rates of demersal scalefish and associated post-release mortality. This will be exacerbated with high grading and catch and release fishing.

Boat limits have a limited capacity to manage catch of the recreational sector effort is unlimited. However, with the introduction of primary measures to limit effort (section 3.2) or retained catch (section 3.3) there is scope to consider supporting measures that reduce the need to release demersal scalefish and associated post-release mortality.

**Supporting measure proposal 3:** Remove the dhufish boat limit for boat-based recreational fishers and charter boats.

Dhufish boat limit considerations:

- Allows recreational fishers to keep the first two demersal scalefish they catch.
- Reduces the need to release a dhufish if one has already been caught, allowing fishers to continue to fish to their remaining mixed species daily bag limit.
- May reduce post-release mortality of dhufish by up to 16%. However, if the proposed primary measures (see section 3.2) to limit recreational effort are not imposed to the extent required, retained catch of dhufish will increase, resulting in an increase in fishing mortality of dhufish.

**Supporting measure proposal 4:** Introduce a demersal scalefish boat limit in the West Coast Bioregion of three times the mixed species daily bag limit (i.e. six demersal scalefish) for boat-based recreational fishers.

Recreational demersal scalefish boat limit considerations:

- 90% of recreational boats have three or less RBFL holders on board when fishing.
- May reduce fishing mortality by the recreational fishery by up to 7%.
- Requires change in fishing behaviour to stop fishing once the boat limit has been met to avoid targeting demersal scalefish for catch and release fishing and high-grading when a larger fish is caught.
- A demersal scalefish boat limit is not required for charter vessels as they are proposed to have a limited retained catch under a quota system.

### 3.4.3 Size limits

The *Policy on the application of fish size limits in Western Australia* ([Fisheries Management Paper No.279](#)) outlines DPIRD's risk based approach taken to the application of size limits under a range of principles. These include reproductive strategies, fishing mortality, targeting and retention, social impacts and economic impacts. Information to support consideration of the application of size limits to demersal scalefish species is summarised in [Fisheries Management Paper No.280](#).

Size limits determine the size of fish which can be retained (minimum and/or maximum limits) by commercial and/or recreational fishers. Size limits are generally used to ensure fish grow large/old enough to spawn at least once before they can be retained to maintain an adequate spawning potential for a stock. Size limits are also used in some commercial fisheries to ensure fish are taken at sizes that maximises stock productivity and/or is desirable market size. However, for many demersal scalefish species, issues such as barotrauma, post-capture handling, or depredation, can significantly affect their post-capture survival and limit the effectiveness of size limits to maintain an adequate spawning potential for the stock. Size limits account for 60-80% of demersal scalefish species being released by recreational fishers in the West Coast Bioregion (Table 2).

**Table 3.** Current minimum size limits and post-release mortality rates for WCDSR key species by the recreational sector in the West Coast Bioregion.

Key species	Current minimum size limit	Post-release mortality rate	Average number of undersize fish that die from post-release mortality	Does the current size limit add to egg production?
Baldchin groper	400 mm	90%	4,750 per year	Very-high post-release mortality may limit any egg production.
Dhufish	500 mm	50%	11,500 per year	

Breaksea cod	300 mm	50%	2,600 per year	High post-release mortality may limit any egg production.
Pink snapper	500 mm south of Lancelin. 410 mm north of Lancelin	25%	32,800 per year	Yes. However, there is significant interaction with juvenile fish.

Size limit considerations:

- Size limits provide limited protection to maintain adequate spawning potential for demersal scalefish species which suffer high post-release mortality rates.
- Size limits are the main reason demersal scalefish species are released (Table 2) and a significant number of demersal scalefish such as pink snapper, dhufish and baldchin groper die from post-release mortality as they are required to be released due to current size limits (Table 3). These fish are not utilised or able to contribute to the recovery of the WCDSR.
- Requires change in fishing behaviour to retain smaller fish as part of the daily bag limit (i.e. stop fishing once you reach the bag limit to avoid additional catch), avoid targeting demersal scalefish for catch and release fishing and avoid high-grading when a larger fish is caught.

**Supporting measure proposal 5:** Remove size limits for demersal scalefish species with post-release mortality rates equal to, or above 50%.

#### 3.4.4 Gear restrictions

Fishing efficiency increases with the number of lures or baits on a line. This is demonstrated through the use of multiple hooks on a line for many commercial fishing applications, where fishing efficiency is important. Similarly, recreational and charter fishing rules allow up to three lures or baits when fishing for WCDSR species.

Reducing the number of lures or baits able to be used while fishing for demersal scalefish will reduce fishing efficiency under a system where effort is limited (refer to proposals in section 3). This may also result in increased time on the water to catch your demersal scalefish daily bag limit in the West Coast Bioregion, providing other amenity benefits. Any potential reductions in fishing mortality from reduced efficiency is not able to be quantified but will be monitored through the Harvest Strategy annual review process.

**Supporting measure proposal 6:** Allow a maximum of one bait or lure per line when fishing for demersal scalefish in the West Coast Bioregion.

#### 3.4.5 Shark depredation

Recreational, charter and commercial fishers in WA are reporting increases in shark depredation. Shark depredation commonly occurs across Northern Australia, with similar reports in Queensland and the Northern Territory.

Managing shark depredation is complex and there is no easy solution. DPIRD responds to depredation in line with the [latest research and technology](#), and WA is leading the country in research to better inform our management decisions.

Future opportunities include further research, testing of mitigation measures and better educating fishers on practical ways to reduce the impact of depredation.

## 4. Spawning protection

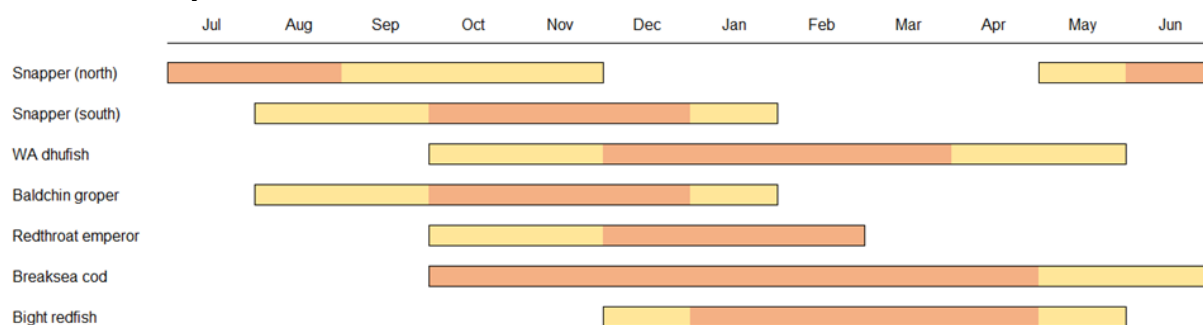
A key strategy in the Harvest Strategy to recover the WCDSR is to provide targeted protection for key species spawning aggregations. The following measures have been developed as an outcome of phase 1 consultation to provide targeted protection for key spawning aggregations and applies to all sectors (including commercial).

In WA, spawning closures have been used in a number of demersal scalefish resources to support sustainability. Providing targeted protection for key spawning aggregations is currently a key strategy to support the WCDSR recovery plan.

Spawning closures maximise benefits for species that aggregate in some form and experience higher catchability at this time, compared to outside the spawning period. If catchability is the same throughout the year, then a spawning closure may not be effective in reducing fishing pressure to increase spawning success.

The WCDSR currently has two targeted spawning closures in place to protect:

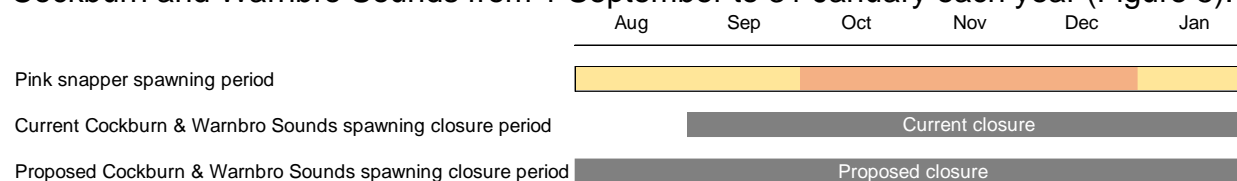
1. pink snapper spawning aggregations in Cockburn and Warnbro Sounds from 1 September to 31 January; and
2. baldchin groper spawning aggregations at the Abrolhos Islands from 1 November to 31 January.



**Figure 4.** Spawning periods for WCDSR key species. Orange equates to peak spawning periods (typically more than 50% of mature females spawning), with some spawning also occurring in yellow months. Note, snapper spawning periods are different in the northern areas (Kalbarri and Mid-West) and southern areas (Metropolitan and South-West) of the WCDSR.

### 4.1 Pink snapper spawning in Cockburn and Warnbro Sounds

Pink snapper migrate into and spawn in Cockburn and Warnbro Sounds annually from August to January, with peak spawning generally occurring from October to December ([Wakefield et al. 2015](#); Crisafulli et al., 2019). These aggregations are the largest known in the WCDSR and have been provided varying levels of targeted protection since 2000. Pink snapper are currently provided protection from all fishing sectors in Cockburn and Warnbro Sounds from 1 September to 31 January each year (Figure 5).



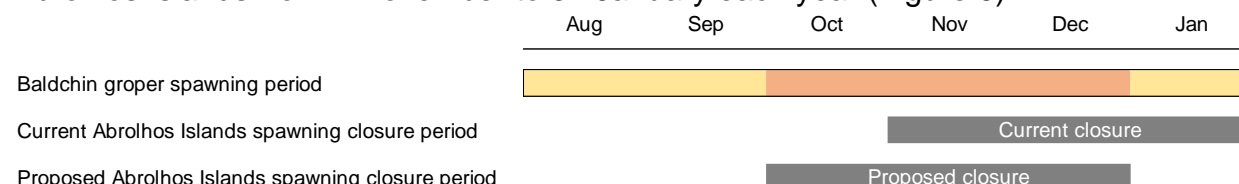
**Figure 5.** Spawning period for pink snapper in Metropolitan and South-West areas of the WCDSR with current and proposed spawning closure timing.



**Support measure proposal 7:** Extend the timing of the current Cockburn and Warnbro Sounds pink snapper spawning closure, applicable to all fishing sectors, to 1 August to 31 January.

## 4.2 Baldchin groper spawning at the Abrolhos islands

Baldchin groper spawn at the Abrolhos Islands annually from August to January, with peak spawning generally occurring from October to December ([Nardi et al. 2006](#)). Baldchin groper are currently provided protection from all fishing sectors at the Abrolhos Islands from 1 November to 31 January each year (Figure 6).



**Figure 6.** Spawning period for baldchin groper in the WCDSR with current and proposed spawning closure timing.

**Support measure proposal 8:** Shift the timing of the baldchin groper annual spawning closure at the Abrolhos Islands, applicable to all fishing sectors, to 1 October to 31 December.

## 4.3 Dhufish spawning

Dhufish spawn annually from October-May, with peak spawning generally occurring from December-March ([Hesp et al. 2002](#)). There are currently no known large spawning aggregations of dhufish in the West Coast Bioregion. However, if effort closures are the preferred primary measure to maintain recreational fishing mortality of demersal scalefish below recovery benchmarks then the timing of any effort closures may provide some benefits to dhufish recovery. This is if the closure is aligned with the timing of their spawning (refer to section 3.2 for further information).

# 5. Improve understanding

In addition to reducing fishing mortality and targeted spawning protection, a number of additional measures such as improved monitoring, science projects and education were identified during phase 1 consultation to support the recovery of the WCDSR.

## 5.1 Recreational sector catch and effort monitoring

Annual review of recreational sector performance against recovery benchmarks requires information on fishing activity (including catch and effort) and information on the biological characteristics of fish populations (such as size and age). For DPIRD to facilitate more timely monitoring on catch and effort and support biological monitoring with reduced catches will require additional resources and funding. This will support the development, implementation and continued use of these programs to support the recovery of the WCDSR.

Recreational fishing data are required to ensure sustainability, amenity and community outcomes including stock assessments, harvest strategies and resource allocation of the WCDSR. Unlike commercial and charter fishing data which are reported via mandatory logbooks that provide a census of catch and effort with no sampling error recreational fishers are numerous, widespread and diverse and it is often not possible or practical to study the whole fishing population. Survey sampling of the target

recreational fisher population may be the most feasible and cost effective way of collecting data.

Monitoring recreational fishing depends upon:

- Spatial and temporal scale of the fishery
- Availability of a sampling frame
- Trade-off between resources, data quality and quantity
- Randomised, representative data collection from probability-based sample selection (opt-out) but increasingly non-probability-based sample selection (opt-in).

DPIRD currently undertakes [10 different recreational fishing surveys](#) to meet a range of social, economic or catch related objectives. Recreational fishing data for the WCDSR is currently obtained every 2-3 years through the Statewide Recreational Fishing Survey (boat-based recreational fishers) and annually through mandatory logbooks (Charter fishery).

### **5.1.1 Current Statewide Recreational Fishing Survey**

Catch and effort from boat-based recreational fishing has been monitored through the [Statewide Recreational Fishing Survey](#) every 2 to 3 years since 2011/12. The latest Statewide Recreational Fishing Survey for 2020/21 is due to be released in coming months. This year-long survey combines off-site phone-diary surveys with on-site access point boat ramp interviews and remote camera monitoring to accurately estimate WA's boat-based recreational fishing effort and catch. The Statewide Recreational Fishing Survey provides estimates of effort and catch at statewide and bioregion levels (by numbers and weight) with known precision that is comparable with other sectors.

The Statewide Recreational Fishing Survey supports the management of the WCDSR by providing fishing effort, retained catch (numbers and weight) and release catch (numbers and reasons for release) information across the WCDSR and within each management area (i.e. Kalbarri/Mid-West, Metropolitan and South-West). The Statewide Recreational Fishing Survey will continue into the future as it's scope is much broader than the WCDSR and will enable comparison of any new WCDSR monitoring methods adopted into the future.

### **5.1.2 WCDSR recreational monitoring needs**

Recovery of the WCDSR requires monitoring fishing mortality against recreational fishery recovery benchmarks and evaluation of the WCDSR Harvest Strategy to meet social, economic and resource sharing objectives. These reviews require more timely monitoring of recreational catch and effort to meet the following primary and secondary monitoring objectives.

**Primary monitoring objective:** Timely estimates of catch and effort for the recreational fishing in the WCDSR to support the Harvest Strategy annual review process.

**Secondary monitoring objectives:**

1. Assess the effectiveness of different management tools by evaluating recreational fisher behavioural changes to the new management package.
2. Collect social/economic information to assist in future resource sharing discussions.
3. Provide in-season catch updates to stakeholders.

Scope of objectives could also include consideration for improved understanding of catch and effort by shore-based recreational fishers and non-compliance (unreported or illegal catch) from recreational fishing in the WCDSR.

Potential tools to achieve recreational monitoring objectives for the WCDSR include a registration system, surveys, logbooks, digital reporting or a combination of these tools. It is critical that monitoring of recreational fisheries provides robust information for evidence-based decision making, as well as meeting stakeholder expectations with respect to data collection methods used to collect fisher information. Consequently, data collection methods and specific survey instruments will be developed following the outcomes of phase 2 consultation and will involve input from peak sector bodies. Any transition to electronic reporting will require additional resourcing to develop, transition, implement and maintain systems.

**Support measure proposal 9:** Implement a recreational fishery monitoring program to provide timely estimates of catch and effort for the recreational fishing in the WCDSR to support the annual review process.

#### **5.1.4 Charter catch and effort monitoring**

Charter Fishery catch and effort of demersal scalefish is currently monitored using paper-based statutory logbooks. While it is a requirement to submit logbooks to DPIRD on a monthly basis, it takes additional time to process and validate returns and to follow up on any late returns, impacting on data availability in a timely manner. Transitioning to electronic reporting should improve the timeliness of Charter Fishery catch and effort data availability. Any transition to electronic reporting will require additional resourcing to develop, transition, implement and maintain systems.

**Supporting measure proposal 10:** Prioritise transition of Charter Fishery reporting from paper-based logbooks to electronic reporting.

### **5.2 Biological monitoring**

DPIRD currently undertakes biological monitoring of the size and age of key indicator species for the WCDSR resource to be able to conduct stock assessments and support sustainable management. The main sources of biological monitoring for the WCDSR include collection of fish frames through commercial fish markets and from recreational fishers via the [Send us your Skeletons program](#) and boat ramp sampling.

Biological monitoring of other demersal scalefish resources in WA is undertaken using DPIRD research vessels or hiring charter or commercial vessels to undertake a planned sampling program. In the WCDSR context, this form of biological monitoring may be required, given the required reductions in effort (and catch) to allow the WCDSR to recover. This would include a survey design that provides appropriate spatial coverage to collect the required number of fish frames of indicator species within each area of the WCDSR to undertake stock assessments. Any trial should be undertaken in conjunction with current methods to enable comparison of representativeness of the results. These sampling programs would require additional resourcing and funding to design, implement and maintain the program.

### **5.3 Research Projects**

A number of research projects were proposed following the outcomes of phase 1 consultation by the recreational sector and commercial sector. Such projects could provide additional information to support the recovery of the WCDSR and will be subject to a prioritisation process with the peak sector bodies.

- a) Investigate the relationships between environmental change on the distribution and biology of key species in the WCDSR. This may include assessment of changes in productivity (biology), connectivity and stock structure, adaptability to changing

- water temperature habitat needs and trophic links, to be able to assess risk under future climate change scenarios and/or incorporate into stock assessment models.
- b) Improved understanding of the social and economic dimensions of the WCDSR.
  - c) Quantify rates of depredation in recreational, charter and commercial fisheries to better understand the extent of its impact in the WCDSR.
  - d) Evaluate the potential for stock enhancement of key species to support recovery.

**Support measure proposal 11:** Develop a research program to prioritise, fund and resource projects to support the recovery of the WCDSR.

## 5.4 Education

The implementation of management measures will require education and compliance resources to inform fishers of changes to management arrangements for the recreational sector and commercial sector.

WAFIC, Recfishwest and Marine Tourism WA have provided support during phase 1 consultation the need for additional funding for a multi-year education campaign that supports fisher behaviour change on issues such as post-release mortality, responsible fishing practices, catch care, shark depredation and the value of the resource.

**Support measure proposal 12:** Implement a multi-year education program to support fisher behavioural change towards responsible fishing practices.

## Have your Say

Submissions should be made online via the [YourSay](#) consultation hub.

**Submissions close at AWST 5pm on Friday, 16 September 2022.**

If you are having difficulties making a submission, please email [wcdemersal@dpird.wa.gov.au](mailto:wcdemersal@dpird.wa.gov.au)