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A REVIEW OF SIZE LIMITS FOR FINFISH IN WESTERN AUSTRALIA

Discussion Paper

FISHERIES MANAGEMENT PAPER NO. 280

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Government of **Western Australia**
Department of **Fisheries**

A review of size limits for finfish in Western Australia

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1.0 OVERVIEW

1.1 Purpose

This management paper is designed to present proposals for changes to size limits that apply to finfish within Western Australia in line with the associated policy.

1.2 Background

In November 2016, the Department of Fisheries (Department) developed a policy on the application of fish size limits in Western Australia (*Fisheries Management Paper no. 279 - Policy on the application of fish size limits in Western Australia*).

The purpose of this policy is to ensure that size limits are applied in a manner consistent with the objects of the *Fish Resources Management Act 1994* and in a way that achieves specific fisheries management objectives.

The Department has now applied this policy with the aim of reviewing the appropriateness of all current size limits that apply to finfish species in Western Australia.

The review takes a science-based approach to assessing the appropriateness of the current size limits that apply to finfish. This approach takes into account: total fishing mortality, which includes fish that are retained and fish that are discarded but subsequently die as a result of capture; the biological factors and reproductive strategies of finfish; as well as the social and economic objectives for the recreational and commercial fishing sectors.

The recreational catch and discard¹ information for each species (where available) only relates to boat-based estimates - collected through the statewide [survey of boat-based recreational fishing in WA \(2013/14\)](#). While the discarding of fish by recreational fishing also occurs in shore-based fishing, no estimates of catches or discards are currently available for this sector. It is likely that shore-based recreational catches of some species will be greater than the recreational boat based catches (e.g. Western Australian Salmon).

The rate of discarding for key species has increased in the past decade and the rate of discard now exceeds to rate of retention for many species (e.g. Pink Snapper). While appropriate catch-handling methods may decrease post-discard mortality rates, it is likely that some post-discard mortality will always occur. However, for some species, high post discard mortality rates will always occur (e.g. Baldchin, Spanish Mackerel)

¹ 'Discard' is now used throughout the Department in place of 'release'.

The review provides an opportunity to simplify and standardise minimum legal lengths (MLL's) for many commonly caught species and remove MLL's that do not contribute to the sustainable management of individual species.

While the review takes a science-based approach, the removal of MLL's for key species has the potential to result in changes to fishing behaviour, including the potential to high grade catches (the practice of returning a fish to the water if a larger or more valuable fish later becomes available for retention). The potential for high-grading may require additional management measures in the future.

In order to understand the policy considerations taken into account when considering the application of size limits, this paper should be read in conjunction [with Fisheries Management Paper No. 279; Policy on the Application of Fish Size limits in Western Australia](#). It is likely that the appropriateness of size limits will continue to be reviewed into the future.

1.3 Opportunity for comment

Comments on the review of size limits for finfish are sought from all stakeholders, including commercial and recreational fishers, relevant community interest groups, Government agencies and interested members of the public.

Once the public comments have been considered, the Minister for Fisheries will consider feedback and make decisions on the size limits for a range of finfish species.

Although specific issues have been identified, your views are sought on any or all of the matters in this discussion paper of significance to you and/or your group.

To ensure your submission is as effective as possible, please:

- make it clear and concise;
- list your points according to the topic sections and page numbers in this paper;
- state whether you agree or disagree with any or all of the information within each topic, or just what is of specific interest to you. Clearly state your reasons, particularly if you disagree, and give sources of information where possible.
- outline any alternative suggestions that take into consideration the policy and/or the recommendations.

Your comments would be appreciated by 23 December 2016, and should be addressed to:

The Director General
Attention: Senior Management Officer
Strategic Fisheries Policy
Department of Fisheries
3rd Floor, The Atrium
168 St George's Terrace
PERTH WA 6000

The peak industry bodies (Recfishwest and Western Australian Fishing Industry Council) will be making submissions to this review. To assist these bodies you may wish to forward a copy of your submission to recfish@recfishwest.org.au or reception@wafic.org.au.

2.0 REVIEW OF FINFISH

2.1 Summary of proposals

Species	Current MLL (mm)	Proposed MLL (mm)
Baldchin Groper	400	Abolish
Tuskfish (Blackspot & Blue)	400	Retain blackspot only
Blue Morwong (Queen Snapper)	410	400
Breaksea Cod	300	Abolish
Goldspotted Cod (Estuary Cod)	400 plus max 1,000 or 30 kg (recs only)	Retain MLL
Blackspotted Cod (Malabar Cod)	max 1,000 or 30 kg (recs only)	Abolish
Coral Trout	450	Retain
Dhufish, West Australian	500	Retain
Emperors & Seabream (family <i>Lethrinidae</i>)	280	Abolish
Emperor, Spangled	410	400
Grass Emperor (Blue-Lined, Black Snapper)	320	300
Emperor, Red Throat	280	300
Bight & Yelloweye Redfish & Swallowtail (Red Snapper)	300	350
Pink Snapper	Lancelin north 410 Shark Bay inner gulfs 500 Lancelin to Augusta 500 Augusta to SA border 410	Lancelin north 380; Shark Bay Inner Gulfs 450; Lancelin to SA border 450.
Red Emperor	410	Rec only 400
Western Blue Groper	500	Abolish
Amberjack	600	Abolish
Samson Fish	600	Abolish
Yellowtail Kingfish	600	Abolish
Cobia	750	Abolish
Mackerel Grey (Broad Barred)	750	Abolish
Mackerel School	500	Abolish
Mackerel Shark	500	Abolish

Species	Current MLL (mm)	Proposed MLL (mm)
Mackerel Spanish (Narrow Barred)	900	Abolish
Mackerel Spotted	500	Abolish
Mahi Mahi (Dolphinfish)	500	Abolish
Whaler sharks	max 700 (inter-dorsal length)	Abolish
Wahoo	900	Abolish
Barramundi	550 Max 800 (recs only)	Retain
Bream, Black	250 (only 2 fish over 400 in Swan and Canning rivers)	Retain MLL and abolish only 2 fish over 400 in Swan and Canning rivers
Bream, other (Western Yellowfin Bream, North West Black Bream, Tarwhine)	300 (Yellowfin) & 250 (others)	Reduce all bream to 250
Estuarine Cobbler	430 (Rec) 320 Partial Length (Com)	400 (Rec) Retain (Com)
Fingermark	300	Retain
Flathead	300	Retain
Flounder	250	Abolish
Javelinfish	300	Abolish
Sweetlips	300	Abolish
Leatherjacket	250	Abolish
Mulloway	500	700
Black Jewfish (Northern Mulloway)	700	Retain
Mangrove Jack	300	Retain
Pike, Long Finned	300	Abolish
Snook, Seapike	300	Abolish
Stripey Seaperch	300	Abolish
Tailor	300 (only 2 fish over 500)	Retain
Threadfin Giant	450	Retain
Skipjack Trevally	250	Retain
Tripletail	300	Abolish
Western Australian Salmon	300	Abolish
Whiting, King George	280	300
Trout, Rainbow, Brown	300	Retain
Sooty Grunter	250	Abolish

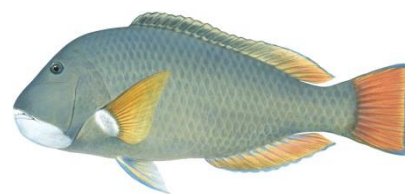
2.2 Size limits for finfish

The following matrix outlines detailed species information and the basis for the proposed changes to size limits for finfish in Western Australia.

In Western Australia, size limits for finfish are based on the total length of the fish from the tip of the head to the end of the tail. In the case of Whaler sharks, size limits are based on the interdorsal fin length.

For a description on the methods for determining total length and interdorsal fin length refer to Appendix 1.

Baldchin Groper
Choerodon rubescens
Category: Demersal finfish
 Current MLL: 400 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	700 mm (28 years)
Length (mm) at maturity (L50)	Female – 279 mm (3-4 years) Change to males at approximately 479 mm-544 mm (10-12 years)
Growth	Slow
Reproduction	Sex change from female to male. May form small breeding groups/schools over habitat range
Habitat and distribution	Nearshore and offshore waters from Ningaloo to Augusta
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Significant discard mortality issues related to barotrauma particularly in water deeper than 10 m

Fishing pressure

Factor	Impact
Retained (eating quality)	High (number retained by recreational fishers)
% of fish discarded (2013/14 boat survey)	54%
Vulnerability rating	Medium High
Catch and method of capture	Recreational: 25-35 tonnes – line Commercial: 15-25 tonnes – line, gillnet
Does the current size limit add to egg production at the current level of fishing mortality?	High post-discard mortality may limit any egg production

Size limit recommendation: Abolish

Assuming high post-discard mortality due to barotrauma the effectiveness of a MLL as a management tool is limited.

Tuskfish (Blackspot and Blue)

C. schoenleinii (Blackspot), *C. cyanodus* (Blue)

Category: Demersal finfish

Current MLL: 400 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	Blackspot – 800 mm (17 years) Blue – 400 mm (14 years)
Length (mm) at maturity (L50)	Blackspot – 252 mm (approximately 3-4 years) Change to males at approximately 556 mm (10 years) Blue – 122 mm (approximately 2 years) Change to males at approximately 221 mm (4 years)
Growth	Slow
Reproduction	Sex change from female to male May form small breeding groups/schools over habitat range
Habitat and distribution	Nearshore waters between Abrolhos Islands and the Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Significant discard mortality issues related to barotrauma, particularly in water deeper than 10 m

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	78%
Vulnerability rating	Medium (Blackspot)
Catch and method of capture	Recreational: 5-10 tonnes – line Commercial: 5-10 tonnes – line, trawl, trap
Does the current size limit add to egg production at the current level of fishing mortality?	High post-discard mortality due to barotrauma may limit any egg production

Tuskfish (Blackspot and Blue) (continued)

C. schoenleinii (Blackspot), *C. cyanodus* (Blue)

Category: Demersal finfish

Size limit recommendation: Abolish for Blue Tuskfish. Retain for Blackspot Tuskfish

Blue Tuskfish do not grow to the current MLL of 400 mm. Blackspot Tuskfish are often found in shallow water environments such as Shark Bay where the impact of barotrauma is considerably reduced. For these reasons it is recommended that the current MLL for Blackspot Tuskfish is retained.

Blue Morwong (Queen Snapper)

Nemadactylus valenciennesi

Category: Demersal finfish

Current MLL: 410 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	996 mm (21 years)
Length (mm) at maturity (L50)	400 mm (2 years)
Growth	Moderate
Reproduction	Multiple batch spawners
Habitat and distribution	Juveniles in nearshore waters and adults in offshore waters between Lancelin and the South Australia border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	28%
Vulnerability rating	Medium
Catch and method of capture	Recreational: 10-15 tonnes – line Commercial: 30-50 tonnes – line, gillnet
Does the current size limit add to egg production at the current level of fishing mortality?	Yes

Size limit recommendation: Decrease MLL to 400 mm

Current MLL contributes to egg production. Assumed low post-discard mortality issues. The 10 mm reduction in the size limit will simplify the rules.

Breaksea Cod

Epinephelides armatus

Category: Demersal finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	550 mm (19 years)
Length (mm) at maturity (L50)	Female – 306 mm Male – 256 mm The majority of females and males are mature by 7 and 5 years respectively
Growth	Slow
Reproduction	Multiple batch spawner
Habitat and distribution	Continental shelf waters between Carnarvon and Recherche Archipelago
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assume high mortality from water >~30-40 m

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	46%
Vulnerability rating	Medium
Catch and method of capture	Recreational: 10-20 tonnes – line Commercial: less than 10 tonnes – line, gillnet
Does the current size limit add to egg production at the current level of fishing mortality?	High post discard mortality due to barotrauma may limit any egg production

Size limit recommendation: Abolish

Assuming high post-discard mortality due to barotrauma the effectiveness of a MLL as a management tool is limited.

Goldspotted Cod (Estuary Cod)

Epinephelus coioides

Category: Demersal finfish

Current MLL: 400 mm

Maximum size of 1,000 mm or 30 kg (recreational fishers only)



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,000 mm (22 years)
Length (mm) at maturity (L50)	Female – 575 mm (sex change 925 mm)
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Juveniles in nearshore and estuaries Mature fish in nearshore and offshore waters between Rottnest Island and Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assume high mortality from water >~30-40m

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	70%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 30-50 tonnes – line, trap, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	High post-discard mortality due to barotrauma may limit any egg production

Size limit recommendation: Abolish maximum size limit. Retain MLL

Assuming high post-discard mortality due to barotrauma the effectiveness of maximum size limit is limited. Juveniles predominantly inhabit creeks and estuaries where post discard survival is relatively high. Retain MLL.

Blackspotted Cod (Malabar Cod)

Epinephelus Malabaricus

Category: Demersal finfish

Maximum size of 1,000 mm or 30 kg (recreational fishers only)



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,150 mm (31 years)
Length (mm) at maturity (L50)	Female – 803 mm (sex change 1,103 mm)
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Juveniles in nearshore and estuaries Mature fish in nearshore and offshore waters between Rottneest Island and Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	High discard mortality when captured from waters >~30- 40 m

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	79%
Vulnerability rating	Medium in Northern Bioregion
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 20-30 tonnes – line, trap, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	High post-discard mortality due to barotrauma may limit any egg production

Size limit recommendation: Abolish maximum size limit

Assuming high post-discard mortality due to barotrauma the effectiveness of a maximum legal length as a management tool is limited.

Coral Trout

Plectropomus spp

Category: Demersal finfish

Current MLL: 450 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	750 mm (20 years) – <i>leopardus</i> Variable - covers a range of species
Length (mm) at maturity (L50)	<i>Leopardus</i> at the Abrolhos Female – maturing at 400 mm Male – 560 mm Variable - covers a range of species
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore and offshore waters from Abrolhos to Northern Territory border
Breeding stock structure	Some separate biological stocks (e.g. Abrolhos)
Post-discard mortality (barotrauma, depredation, or gear related)	High discard mortality when captured from waters >~30-40 m

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	55%
Vulnerability rating	Medium
Catch and method of capture	Recreational: 5-10 tonnes – line Commercial: 10-20 tonnes – line, trap
Does the current size limit add to egg production at the current level of fishing mortality?	Limited

Size limit recommendation: Retain

The current MLL provides protection primarily for male fish. However, anecdotal evidence suggests males are highly susceptible to fishing pressure. This is due to their territorial nature and aggressive feeding behaviour. A significant component of the catch is caught by recreational fishers in shallow waters where the impact of barotrauma is considerably reduced. For these reasons it is recommended that the current MLL is retained.

Dhufish, West Australian

Glaucosoma hebraicum

Category: Demersal finfish

Current MLL: 500 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,200 mm (41 years)
Length (mm) at maturity (L50)	Female – 301 mm Male – 320 mm (3-4 years)
Growth	Slow
Reproduction	May form small breeding groups schools over habitat range
Habitat and distribution	Nearshore and offshore waters Endemic to Western Australia from Shark Bay to Recherche Archipelago
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	High discard mortality when captured from waters >~30-40 m

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	68%
Vulnerability rating	Medium in West Coast Medium in South Coast
Catch and method of capture	Recreational: 70-85 tonnes – line Commercial: 70-85 tonnes – line, net
Does the current size limit add to egg production at the current level of fishing mortality?	May contribute to increased egg production in waters less than 40 m

Size limit recommendation: Retain

While barotrauma can be a significant issue for fish from deep water, sub MLL (juveniles) are often caught in shallow inshore waters where the impact of barotrauma is considerably reduced. Note the % of the discarded fish in over ~30-40 m and subsequent mortality rate requires further consideration to determine the long-term appropriateness of a MLL for Dhufish.

Other Emperors & Seabream

Lethrinidae (except: *Lethrinus nebulosus*,
Lethrinus miniatus and *Lethrinus laticaudis*)

Category: Demersal finfish

Current MLL 280 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	10-30 years. Variable - family covers a range of species
Length (mm) at maturity (L50)	Variable - family covers a range of species
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore and offshore waters from Rottneest Island to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Unknown – over 12 species in family

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	59%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: less than 100 tonnes – line, trawl, gillnet
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Abolish (except; spangled emperor – *Lethrinus nebulosus*, red throat emperor – *Lethrinus miniatus* and grass emperor – *Lethrinus laticaudis*)

There are more than 12 Lethrinid species of similar appearance leading to significant confusion identifying individual species and several of the Lethrinid species only reach a maximum size which is at or below the current MLL. This family also comprises a significant component of the Pilbara Trawl Fishery catch where there is a very high rate of mortality associated with this method of capture. MLLs should be retained for key species (Spangled Emperor, Red Throat Emperor and Blue-lined Emperor) that are primarily caught by line.

Emperor, Spangled
Lethrinus nebulosus
Category: Demersal finfish
 Current MLL: 410 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	860 mm (31 years)
Length (mm) at maturity (L50)	350 mm
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore and offshore waters from Rottne Island to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	69%
Vulnerability rating	Medium High
Catch and method of capture	Recreational: 15-35 tonnes – line Commercial: 60-80 tonnes – line, trap, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	Yes

Size limit recommendation: Decrease MLL to 400 mm

The proposed MLL supports egg production through promoting the survival of juvenile fish. Assumed low post discard mortality issues. The 10 mm reduction in MLL will simplify rules.

Grass Emperor (Blue-Lined, Black Snapper)

Lethrinus laticaudis

Category: Demersal finfish

Current MLL: 320 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	650 mm (15 years)
Length (mm) at maturity (L50)	Female – 230 mm Male – 190 mm (Shark Bay)
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore waters Lancelin to Northern Territory border
Breeding stock structure	Separate management units (Shark Bay)
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	64%
Vulnerability rating	Medium
Catch and method of capture	Recreational: 20-30 tonnes – line Commercial: less than 10 tonnes – line, trap, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	Yes

Size limit recommendation: Decrease MLL to 300 mm

Assumed low post-discard mortality issues – species often caught in shallow inshore waters in locations such as Shark Bay. The proposed MLL is above the size of maturity and will also help standardise and simplify the rules.

Emperor, Red Throat

Lethrinus miniatus

Category: Demersal finfish

Current MLL: 280 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	~700 mm (30 years)
Length (mm) at maturity (L50)	Females mature at about the MLL of 280 mm, change sex to males at 463-481 mm (DoF, unpublished data)
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore and offshore waters from Abrolhos to Onslow
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	75%
Vulnerability rating	Medium High
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 40-50 tonnes – line, trap, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	Yes

Size limit recommendation: Increase MLL to 300 mm

Assumed low post discard mortality issues. Increasing the MLL from 280 mm to 300 mm will help standardise and simplify the rules. Some commercial fishers have suggested a larger MLL to maximise economic returns – this could be considered in the management plans for the various fisheries, or as a different commercial size limit in regulations.

Red Snapper (Bight Redfish, Yelloweye redfish & Swallowtail)

Centroberyx gerrardi, *Centroberyx australis*,
Centroberyx lineatus (Berycidae)

Category: Demersal finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	660 mm – red snapper (70 years)
Length (mm) at maturity (L50)	South West: Female – 282 mm, Male – 250 mm Western Coast: Female – 288 mm, Male 250 mm Eastern South Coast: Female – 384 mm, Male – 516 mm
Growth	Slow
Reproduction	Multiple batch spawners
Habitat and distribution	Continental shelf Lancelin to Bass Strait
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	34%
Vulnerability rating	Medium High
Catch and method of capture	Recreational: 10-15 tonnes – line Commercial: 60-80 tonnes – line, gillnet, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	Yes – West of fishery No – East of fishery

Size limit recommendation: Increase MLL to 350 mm

Assumed low post discard mortality issues. The majority of the fish are taken in the southern range of fishery, where the size at maturity is between 384 mm and 516 mm. Increasing the MLL from 300 mm to 350 mm will provide increased protection for fish in their southern range, noting that fish mature in the south west and west coast between 250 mm and 288 mm.

Pink Snapper

Pagrus (Chrysophrys) auratus

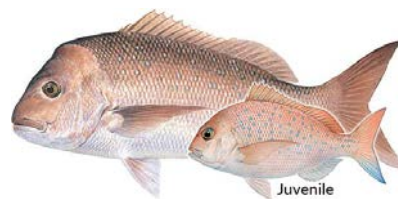
Category: Demersal finfish

Current MLL: 410 mm Exmouth to Lancelin

500 mm Inner gulfs of Shark Bay (maximum size 700 mm)

500 mm between 31°S and West Coast/South Coast Bioregion border at 115°30'E

410 mm East of 115°S (near Augusta)



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,300 mm (41 years)
Length (mm) at maturity (L50)	Carnarvon: Female – 378 mm, Male – 353 mm Shark Bay, Eastern gulf: Female – 411 mm, Male – 326 mm, Freycinet: Female – 496 mm, Male – 390 mm Metro: Female – 585 mm, Male – 566 mm South Coast: Female – 600 mm, Male – 586mm
Growth	Moderate
Reproduction	Multiple batch spawners
Habitat and distribution	Juvenile – nearshore waters Sub adults – nearshore and offshore waters Adults – continental shelf from Onslow to South Australia border
Breeding stock structure	Single biological stock outside Shark Bay Three separate populations in Shark Bay area
Post-discard mortality (barotrauma, depredation, or gear related)	Low in shallow waters Moderate in waters >~30-40 m

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	83%
Vulnerability rating	Medium High
Catch and method of capture	Recreational: 50-60 tonnes – line Commercial: 450-500 tonnes – line, trawl, gillnet
Does the current size limit add to egg production at the current level of fishing mortality?	Yes, significant interaction with juvenile fish. Increased egg production could be achieved by increasing size limit in southern range of the fishery

Pink Snapper (continued)

Pagrus (Chrysophrys) auratus

Category: Demersal finfish

Size limit recommendation: Decrease MLL to 450 mm south of Lancelin; Decrease MLL north of Lancelin to 380 mm; and Decrease MLL in Shark Bay to 450 mm

MLL 450 mm south of Lancelin

This will provide protection of juvenile fish in nearshore and offshore environments. Noting fish mature at a larger size in the south part of the fishery. The reduction in the metro MLL from 500 mm to 450 mm, will help standardise and simplify arrangements while still providing some protection for sub-adult fish.

Decrease MLL north of Lancelin to 380 mm

Lower size limit reflects smaller size of maturity for oceanic pink snapper stock off Carnarvon (females – 378 mm). This will also help reduce discard level in this area of the fishery, which is high.

Decrease MLL Shark Bay inner gulfs to 450 mm

The proposed decrease in MLL from 500 mm to 450 mm in Shark Bay inner gulfs is well above the size at maturity however, a conservative management approach is required to manage this fishery. The catch in the inner gulfs is dominated by the recreational sector, where the catch is by line and in shallow water with minimal barotrauma issues.

Red Emperor

Lutjanus sebae

Category: Demersal finfish

Current MLL: 410 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	800 mm (45 years)
Length (mm) at maturity (L50)	Kimberley Female – 461 mm (total length) Kimberley Male – 491 mm (total length)
Growth	Slow
Reproduction	Multiple batch spawner
Habitat and distribution	Continental shelf to 180 mm from Rottneest Island to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be high in commercial fisheries and low in recreational fisheries

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	45%
Vulnerability rating	Medium High
Catch and method of capture	Recreational: 15-25 tonnes – line Commercial: 250-300 tonnes – 70% trap, 25% trawl, 5% line
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Abolish commercial MLL and Decrease MLL to 400 mm for recreational fishers

Assuming high post-discard mortality associated with the commercial trap and trawl, which accounts for over 90% of the total catch, the current MLL would not contribute to egg production. Removing this MLL would help standardise and simplify rules and would decrease provisioning of and predation by sharks. The recreational catch is taken by line, often in shallower waters where post-discard mortality issues are considerably reduced. For these reasons it is recommended that a MLL of 400 mm apply for recreational fishers only.

Western Blue Groper

Achoerodus gouldii

Category: Demersal finfish

Current MLL: 500 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,600 mm (70 years)
Length (mm) at maturity (L50)	Female – 653 mm Change to males – 800-850 mm
Growth	Slow
Reproduction	Sex changing born females and change to males
Habitat and distribution	Adults in continental shelf waters, juveniles in nearshore waters
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	High discard mortality when captured from waters >~30-40m

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	52%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 5 tonnes – line, spear Commercial: 30-60 tonnes – line, trawl, gillnet
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Abolish

The majority of the mature fish are caught in commercial fisheries using demersal gillnet, where capture mortality is high. Given the size at maturity, the size selectivity of gillnets used and sex change the current MLL would not contribute to egg production.

Amberjack

Seriola dumerili

Category: Large pelagic finfish

Current MLL: 600 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,880 mm (~17 years)
Length (mm) at maturity (L50)	Unknown in Western Australia
Growth	Fast
Reproduction	Assume multiple batch spawner
Habitat and distribution	Continental shelf waters from Exmouth to South Australia border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Low

Fishing pressure

Factor	Impact
Retained (eating quality)	Low
% of fish discarded (2013/14 boat survey)	46%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 10-20 tonnes – line, gillnet, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Abolish

Low vulnerability rating. The importance of the MLL as a management tool is limited due to the high discard rate, low post-discard mortality, lack of targeting and retention, and primary value as a sport fish. Removing the MLL will have minimal impact of egg production.

Samson Fish

Seriola hippos

Category: Large pelagic finfish

Current MLL: 600 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,750 mm (29 years)
Length (mm) at maturity (L50)	Female – 831 mm (approximately 4 years)
Growth	Fast
Reproduction	Multiple batch spawner
Habitat and distribution	Continental shelf waters from Shark Bay to South Australia border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Low

Fishing pressure

Factor	Impact
Retained (eating quality)	Low
% of fish discarded (2013/14 boat survey)	74%
Vulnerability rating	Low
Catch and method of capture	Recreational: 10-20 tonnes – line Commercial: 40-60 tonnes – line, gillnet, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Abolish

Low vulnerability rating. The importance of the MLL as a management tool is limited due to the high discard rate, low post-discard mortality, lack of targeting and retention, and primary value as a sport fish. Removing the MLL will have minimal impact of egg production.

Yellowtail Kingfish

Seriola lalandi

Category: Large pelagic finfish

Current MLL: 600 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,800 mm (47 years)
Length (mm) at maturity (L50)	Unknown in Western Australia
Growth	Fast
Reproduction	Multiple batch spawner
Habitat and distribution	Continental shelf waters from Exmouth to South Australia border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	61%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 10 tonnes – line Commercial: less than 5 tonnes – line, gillnet, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Abolish

Low vulnerability rating. The importance of the MLL as a management tool is limited due to the high discard rate, low post-discard mortality, lack of targeting and retention, and primary value as a sport fish. Removing the MLL will have minimal impact of egg production.

Cobia

Rachycentron canadum

Category: Large pelagic finfish

Current MLL: 750 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	2,000 mm (~10 - 15 years)
Length (mm) at maturity (L50)	Unknown in Western Australia
Growth	Fast
Reproduction	Unknown
Habitat and distribution	Inshore waters Perth to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	38%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 10 tonnes – line Commercial: 10-20 tonnes – line, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Abolish

The importance of the MLL as a management tool is limited due to the low post-discard mortality, lack of targeting and retention, and primary value as a sport fish by the recreational sector. Removing the MLL will have minimal impact of egg production.

Mackerel, Grey (Broad barred)

Scomberomorus semifasciatus

Category: Large pelagic finfish

Current MLL: 750 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,200 mm (12 years)
Length (mm) at maturity (L50)	Female – 700 mm Male – 660 mm
Growth	Fast
Reproduction	Multiple batch spawner
Habitat and distribution	Inshore waters from Abrolhos to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be high

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	43%
Vulnerability rating	Low in Gascoyne Bioregion Medium in Northern Bioregion
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 10-20 tonnes – line
Does the current size limit add to egg production at the current level of fishing mortality?	No, discard mortality anecdotally considered to be high due to stress on capture

Size limit recommendation: Abolish

Anecdotal evidence suggests a high post-discard mortality (>90%) due to stress on capture. Effectiveness of the MLL as a management tool is limited and removing the MLL has little impact on egg production.

Mackerel, School

Scomberomorus queenslandicus

Category: Large pelagic finfish

Current MLL: 500 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,000 mm (~10 years)
Length (mm) at maturity (L50)	Unknown in Western Australia
Growth	Fast
Reproduction	Multiple batch spawner
Habitat and distribution	Inshore waters from Abrolhos to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be high

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	65%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: no reported catch
Does the current size limit add to egg production at the current level of fishing mortality?	No, discard mortality anecdotally considered to be high due to stress on capture

Size limit recommendation: Abolish

Anecdotal evidence suggests a high post-discard mortality (>90%) due to stress on capture. Effectiveness of the MLL as a management tool is limited and removing the MLL has little impact on egg production.

Mackerel, Shark

Grammatorcynus bicarinatus

Category: Large pelagic finfish

Current MLL: 500 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,300 mm
Length (mm) at maturity (L50)	Unknown in Western Australia
Growth	Fast
Reproduction	Multiple batch spawner
Habitat and distribution	Inshore waters from Geographe Bay to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be high

Fishing pressure

Factor	Impact
Retained (eating quality)	Low
% of fish discarded (2013/14 boat survey)	75%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: no reported catch
Does the current size limit add to egg production at the current level of fishing mortality?	No, discard mortality anecdotally considered to be high due to stress on capture

Size limit recommendation: Abolish

Anecdotal evidence suggests a high post discard mortality (>90%) due to stress on capture. Effectiveness of the MLL as a management tool is limited and removing the MLL has little impact on egg production. Continue management through other measures.

Mackerel, Spanish (Narrow barred)

Scomberomorus commerson

Category: Large pelagic finfish

Current MLL: 900 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	2,350 mm (22 years)
Length (mm) at maturity (L50)	Female – 790 mm Male – 630 mm
Growth	Fast
Reproduction	Multiple batch spawner
Habitat and distribution	Inshore waters from Albany to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	High post discard mortality

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	48%
Vulnerability rating	Low in West Coast Medium in Gascoyne and Northern Bioregion
Catch and method of capture	Recreational: 60-80 tonnes – line Commercial: 280-320 tonnes – line
Does the current size limit add to egg production at the current level of fishing mortality?	No, discard mortality anecdotally considered to be high due to stress on capture

Size limit recommendation: Abolish

Anecdotal evidence suggests a high post-discard mortality (>90%) due to stress on capture. Effectiveness of the MLL as a management tool is limited and removing the MLL has little impact on egg production.

Mackerel, Spotted

Scomberomorus munroi

Category: Large pelagic finfish

Current MLL: 500 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,040 mm (at least 7 years)
Length (mm) at maturity (L50)	Unknown in Western Australia
Growth	Fast
Reproduction	Multiple batch spawner
Habitat and distribution	Inshore waters from Abrolhos to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be high

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	45%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: no reported catch
Does the current size limit add to egg production at the current level of fishing mortality?	No, discard mortality anecdotally considered to be high due to stress on capture

Size limit recommendation: Abolish

Anecdotal evidence suggests a high post-discard mortality (>90%) due to stress on capture. Effectiveness of the MLL as a management tool is limited and removing the MLL has little impact on egg production.

Mahi Mahi (Dolphinfish)

Coryphaena hippurus

Category: Large pelagic finfish

Current MLL: 500 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	2,000 mm (4 years)
Length (mm) at maturity (L50)	Female – 457 mm Male – 476 mm
Growth	Fast
Reproduction	Multiple batch spawner
Habitat and distribution	Offshore waters from Abrolhos to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Unknown

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	39%
Vulnerability rating	Low
Catch and method of capture	Recreational: line Commercial: line
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Abolish

Very fast growing, maturity reached within first year. MLL is not required.

Whaler Sharks

Chondrichthyes

Category: Large pelagic finfish

Current MLL 700 mm

Interdorsal fin length on the West and South Coast



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	3,000 mm (40 years) – Sandbar 3,600 mm (50 years) – Dusky Variable - covers a range of species
Length (mm) at maturity (L50)	Female – 1360 mm (17 years) – Sandbar Female – 2540 mm (30 years) – Dusky Variable - covers a range of species
Growth	Moderate
Reproduction	Individual spawner bearing live young
Habitat and distribution	Continental shelf, nearshore and estuarine waters entire Western Australia coast
Breeding stock structure	Multiple species with each assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	92%
Vulnerability rating	Medium High for Sandy and Dusky
Catch and method of capture	Recreational: line less than 10 tonnes Commercial: 40-50 tonnes – net (Sandbar) 140-150 tonnes – net (Dusky)
Does the current size limit add to egg production at the current level of fishing mortality?	Yes, for Sandbar

Whaler Sharks (continued)

Chondrichthyes

Category: Large pelagic finfish

Size limit recommendation: Abolish

Current arrangements primarily designed to provide protection for dusky whaler sharks. Difficulties exist with identifying different whaler species therefore the family of whaler sharks is included. Given the majority (~95%) of catch is taken by commercial fishers, the current size limit that only applies to recreational fishers, provides limited contribution to stock sustainability. Large sharks are rarely retained due to high mercury levels in the flesh.

Wahoo

Acanthocybium solandri

Category: Large pelagic finfish

Current MLL: 900 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	2,100 mm (12 years)
Length (mm) at maturity (L50)	Unknown in Western Australia
Growth	Fast
Reproduction	Unknown
Habitat and distribution	Offshore entire Western Australia coast
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be high

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	53%
Vulnerability rating	Low
Catch and method of capture	Recreational: line Commercial: line
Does the current size limit add to egg production at the current level of fishing mortality?	No, discard mortality anecdotally considered to be high due to stress on capture

Size limit recommendation: Abolish

Anecdotal evidence suggests a high post discard mortality (>90%) due to stress on capture. Effectiveness of the MLL as a management tool is limited and removing the MLL has little impact on egg production.

Barramundi

Lates calcarifer

Category: Nearshore/estuarine finfish

Current MLL: 550 mm

Maximum 800 mm (recreational only)



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,500 mm (30 years)
Length (mm) at maturity (L50)	550-600 mm
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore and estuarine waters from Exmouth Gulf to Northern Territory border
Breeding stock structure	Genetic differentiation with two populations in Western Australia
Post-discard mortality (barotrauma, depredation, or gear related)	Low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	91%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 10 tonnes – line Commercial: 40-80 tonnes – gillnet
Does the current size limit add to egg production at the current level of fishing mortality?	Limited

Size limit recommendation: Retain

Fish caught in shallow water with limited barotrauma and handling mortality. Maximum size limit for the recreational fishers increases protection for large fish to achieve a social objective. The maximum size limit for recreational fishers only is for the purpose of ensuring trophy sized fish are available in waters fished by recreational fishers. This has resulted in a catch and discard fishery for large Barramundi.

Bream, Black

Acanthopagrus butcheri

Category: Nearshore/estuarine finfish

Current MLL 250 mm (only 2 over 400 mm in Swan and Canning Rivers)



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	530 mm (31 years)
Length (mm) at maturity (L50)	Highly variable over time and between estuaries, e.g. Swan River: 1993-1995, L50% for Female/Male 174/172 mm (at age 2.2 and 2.1 years) 2007-2010, L50% for Female/Male 156/155 mm
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore and estuarine waters from Shark Bay to South Australian border
Breeding stock structure	Genetically distinct populations in individual estuaries
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	91%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 40-70 tonnes –et
Does the current size limit add to egg production at the current level of fishing mortality?	Yes

Size limit recommendation: Retain MLL, abolish only two fish over 400 mm in Swan and Canning Rivers

Current MLL contributes to egg production. The removal of *only two fish over 400 mm in Swan and Canning Rivers* is not expected to have any negative impact on egg production. This will also help simplify rules.

Bream, other (western yellowfin bream, north west black bream, tarwhine)

Acanthopargus latus (morrisoni), *A. palmaris*,
Rhabdosargus sarba

Category: Nearshore/estuarine finfish

Current MLL: 300 mm (Yellowfin), 250 mm (others)



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	Tarwhine – 550 mm (13 years) Others – 20 years
Length (mm) and age (years) at maturity (L50)	Male – 245 mm <i>A. latus (morrisoni)</i> <i>R. sarba</i> -
Growth	Moderate
Reproduction	<i>Acanthopagrus spp.</i> sex change from male to female
Habitat and distribution	Nearshore and estuarine waters along the entire Western Australia coast
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	82%
Vulnerability rating	Medium
Catch and method of capture	Recreational: line Commercial: net
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Decrease MLL for Yellowfin Bream to 250 mm

The proposal in effect makes the MLL for all bream (Sparidae) 250 mm and will help simplify the rules for bream. The proposed change does not protect the female phase of yellowfin bream (*protandrous hermaphrodite*). However, due to limited targeting of yellowfin bream and the smaller size of yellowfin bream encountered in their northern range (Exmouth Gulf) a uniform MLL for all bream is proposed.

Estuarine Cobbler

Plotosidae

Category: Nearshore/estuarine finfish

Current MLL: 430 mm total length (recreational)

320 mm partial length - trunked (head removed, equivalent to 430 mm total length)
(commercial)



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	910 mm (14 years)
Length (mm) at maturity (L50)	Varies between estuaries; Female 405–419 mm, Male – 385 mm
Growth	Moderate
Reproduction	Single spawner, generally mates in pairs. Males brood eggs in burrows and guards larvae
Habitat and distribution	Estuarine and nearshore waters from Abrolhos to South Australia border
Breeding stock structure	Genetic divergence indicates little interbreeding between estuarine populations. Each estuary likely to consist of an individual stock.
Post-discard mortality (barotrauma, depredation, or gear related)	High in gill nets. Assumed low when caught by line

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	37%
Vulnerability rating	High in Wilson Inlet Low in other estuaries in South Coast High in West Coast
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 50-100 tonnes – net
Does the current size limit add to egg production at the current level of fishing mortality?	Yes

Size limit recommendation: Retain commercial MLL. Decrease recreational MLL to 400 mm

Minimal catch by recreational sector. The proposed change will not impact on egg production and will help simplify rules.

Fingermark

Lutjanus johnii

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	700 mm (30 years)
Length (mm) at maturity (L50)	Unknown in Western Australia however in Northern Territory: Male – 520 mm (7 years) Female – 560 mm (8 years)
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Estuarine and nearshore waters from Broome to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	73%
Vulnerability rating	Medium High
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: no reported catch
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Retain

Current MLL provides some protection for juvenile fish, which are primarily captured in shallow waters where mortality issues are low. The current MLL may assist in protecting small fish by allowing them to move into the offshore environment and reach maturity.

Flathead

Platycephalidae

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	<i>P. speculator</i> – 900 mm (12 years) <i>P. endrachtensis</i> – 760 mm (9 years)
Length (mm) at maturity (L50)	<i>P. endrachtensis</i> (Swan): Female – 259 mm Male – 187 mm <i>P. speculator</i> (Wilson Inlet): Female – 250 mm Male – 325 mm
Growth	Fast
Reproduction	Multiple batch spawner
Habitat and distribution	Estuarine and nearshore waters; some species occur in deeper water Carnarvon to South Australia border
Breeding stock structure	Genetic differentiation two populations of bar tailed (<i>P. endrachtensis</i>) in Western Australia
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	87%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: less than 5 tonnes – net
Does the current size limit add to egg production at the current level of fishing mortality?	Yes

Size limit recommendation: Retain

Current MLL is set above size at maturity. Current MLL contributes to egg production. Assumed low post-discard mortality issues.

Flounder

Pseudorhombus spp.

Category: Nearshore/estuarine finfish

Current MLL: 250 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	Variable - covers a range of species
Length (mm) at maturity (L50)	Variable - covers a range of species
Growth	Variable - covers a range of species
Reproduction	Multiple batch spawner
Habitat and distribution	Estuarine and nearshore waters Shark Bay to South Australia border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	38%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: less than 5 tonnes – net
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Abolish

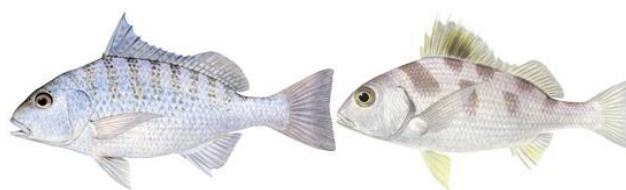
Primarily incidental catch when fishing for other species (e.g. whiting and flathead) but are retained. Assumed low post-discard mortality issues. MLL is not required.

Javelinfish

Haemuliade

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	Variable - family covers a range of species
Length (mm) and age (years) at maturity (L50)	Variable - family covers a range of species
Growth	Variable - family covers a range of species
Reproduction	Variable - family covers a range of species
Habitat and distribution	Estuarine and nearshore coastal waters north of Shark Bay
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	High in trawl nets Assumed to be low when caught on line

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	82%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 15-20 tonnes
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Abolish

Limited targeting and retention. Currently no known sustainability issues. Commercial catch often taken in trawl nets where post-discard mortality is high. MLL is not required.

Sweetlips

Haemulidae

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	Variable - family covers a range of species
Length (mm) at maturity (L50)	Variable - family covers a range of species
Growth	Variable - family covers a range of species
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore and offshore waters entire Western Australia coast
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	High in trawl nets Assumed to be low when caught on line

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	49%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 10 tonnes – line Commercial: 50-80 tonnes
Does the current size limit add to egg production at the current level of fishing mortality	Unknown

Size limit recommendation: Abolish

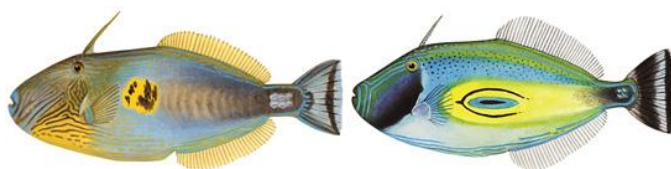
Covers a range of species. Limited targeting and retention. Commercial catch often taken in trawl nets where post-discard mortality is high. No known sustainability issues. MLL is not required.

Leatherjacket

Monacanthidae

Category: Nearshore/estuarine finfish

Current MLL: 250 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	Variable - family covers a range of species
Length (mm) at maturity (L50)	Variable - family covers a range of species
Growth	Variable - family covers a range of species
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore and offshore waters entire Western Australia coast
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	88%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 20-30 tonnes
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Abolish

Limited targeting and retention. No known sustainability issues. MLL is not required.

Mulloway

Argyrosomus japonicus

Category: Nearshore/estuarine finfish

Current MLL: 500 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,500 mm (31 years)
Length (mm) at maturity (L50)	Female – 903 mm Male – 873 mm
Growth	Moderate
Reproduction	Multiple batch spawner, aggregates in some locations, e.g. Swan River
Habitat and distribution	Estuarine and continental shelf waters from Exmouth to South Australia border
Breeding stock structure	One population with little divergence in west coast of Western Australia
Post-discard mortality (barotrauma, depredation, or gear related)	High discard mortality when captured from waters >~20 m

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	56%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 10 tonnes – line Commercial: 10-20 tonnes – line, gillnet, trawl
Does the current size limit add to egg production at the current level of fishing mortality?	Limited

Size limit recommendation: Increase MLL to 700 mm

The current maximum legal length is considerably below the size at maturity. Increasing the MLL to 700 mm is moving the MLL closer to size at maturity and will provide increased protection for juvenile fish and supports egg production through promoting the survival of juvenile fish. Fish often inhabit nearshore shallow waters where post-discard survival is relatively high. This will also help simplify the rules by standardising the MLL with Northern Mulloway which are a similar species with a similar size at maturity.

Black Jewfish (Northern Mulloway)

Protonibea diacanthus

Category: Nearshore/estuarine finfish

Current MLL: 700 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,500 mm (30 years)
Length (mm) at maturity (L50)	Female – 890 mm
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Estuarine and continental shelf waters from Onslow to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	High discard mortality when captured from waters >~20m

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	60%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: less than 5 tonnes – net
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Retain

Current MLL provides some protection for juvenile fish and supports egg production through promoting the survival of juvenile fish. Fish often inhabit nearshore waters where post-discard survival is relatively high. Also benefit in standardising MLL with mulloway.

Mangrove Jack

Lutjanus argentimaculatus

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	800 mm (52 years)
Length (mm) and age (years) at maturity (L50)	Pilbara: Female – 461 mm Male – 452 mm Kimberley: Female – 498 mm Male – 472 mm
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Nearshore and offshore waters from Kalbarri to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	62%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 10-20 tonnes – gillnet
Does the current size limit add to egg production at the current level of fishing mortality	No

Size limit recommendation: Retain

The current MLL provides some protection for juvenile fish, which are primarily captured in shallow waters where mortality issues are low. The current MLL may assist in protecting small fish by allowing them to move into the offshore environment and reach maturity.

Pike, Long Finned

Dinolestes lewini

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	Unknown
Length (mm) and age (years) at maturity (L50)	Unknown
Growth	Unknown
Reproduction	Unknown
Habitat and distribution	Nearshore Shark Bay to South Australia border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Low
% of fish discarded (2013/14 boat survey)	N/A
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: less than 5 tonnes
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Abolish

Limited targeting and retention. No current sustainability issues. MLL not required.

Snook, Seapike

Sphyraenidae

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,000 mm (10 years) Variable - family covers a range of species
Length (mm) at maturity (L50)	Female – 400 mm Male – 420 mm (<i>S. novahollandiae</i>) Variable - family covers a range of species
Growth	Variable - family covers a range of species
Reproduction	Variable - family covers a range of species
Habitat and distribution	Nearshore waters from Albany north
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Low
% of fish discarded (2013/14 boat survey)	28%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: less than 5 tonnes
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Abolish

Limited targeting and retention. No current sustainability issues. MLL not required.

Stripey Seaperch

Lutjanus carponotatus

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	380 mm (20 years)
Length (mm) at maturity (L50)	Unknown; in Queensland estimated at 190-210 mm
Growth	Unknown
Reproduction	Unknown
Habitat and distribution	Nearshore and offshore waters from Shark Bay north to Northern Territory border
Breeding stock structure	Considered separate genetic population in Western Australia.
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	78%
Vulnerability rating	Low in Gascoyne Bioregion Medium in Northern Bioregion
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: less than 5 tonnes – trawl
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Abolish

Based on available research all fish mature at 200 mm. Fish don't enter the fishery until 250-300 mm when captured as a by-product of fishing for other species. Given limited targeting and small size at maturity, an MLL is not required.

Tailor

Pomatomus saltatrix

Category: Nearshore/estuarine finfish

Current MLL: 300 mm (only 2 fish over 500 mm)



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,200 mm (10 years)
Length (mm) at maturity (L50)	330 mm
Growth	Moderate
Reproduction	Broadcast spawner – spawns over a long period in small batches of eggs
Habitat and distribution	Nearshore and offshore waters from Onslow to South Australia border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	51%
Vulnerability rating	Low in Gascoyne Bioregion Medium in Northern Bioregion
Catch and method of capture	Recreational: less than 10 tonnes – line Commercial: 25-30 tonnes – net
Does the current size limit add to egg production at the current level of fishing mortality?	Limited

Size limit recommendation: Retain MLL and bag limit of only 2 fish over 500 mm

Tagging studies have shown low post-discard mortality issues. Current MLL provides some protection for juvenile fish. The current MLL may assist in protecting small fish and allowing them to move into the offshore environment and reach maturity.

Threadfin, Giant

Polydactylus macrochir

Category: Nearshore/estuarine finfish

Current MLL: 450 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	1,200 mm (10 years)
Length (mm) at maturity (L50)	Male – 229 mm (1 year) Size at sex change ranges widely 313-1,139 mm with the L50 value = 814 mm
Growth	Fast
Reproduction	Protandrous hermaphrodites, mature first as males then change to females
Habitat and distribution	Nearshore and estuarine waters from Onslow to Northern Territory border
Breeding stock structure	Separate breeding stocks between Western Australia and Northern Territory
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	63%
Vulnerability rating	Medium High
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: 40-70 tonnes – trawl
Does the current size limit add to egg production at the current level of fishing mortality?	Limited

Size limit recommendation: Retain

Threadfin are caught in shallow waters where there are no known barotrauma issues. Current MLL provides protection for all male fish. Given large variation in size at which these fish undergo sex change and mature as females, between 313 mm and 1,139 mm, there is some protection of mature females by the MLL.

Skipjack Trevally

Pseudocaranx spp. *Carangidae*

Category: Nearshore/estuarine finfish

Current MLL: 250 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	900 mm (18 years)
Length (mm) at maturity (L50)	Female and Male – 310 mm (3 years)
Growth	Moderate
Reproduction	Broadcast multiple spawner near reefs
Habitat and distribution	Nearshore and offshore waters from Abrolhos to South Australian border
Breeding stock structure	Assumed to be a single biological stock for each species
Post-discard mortality (barotrauma, depredation, or gear-related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	44%
Vulnerability rating	Low in South Coast Medium in West Coast
Catch and method of capture	Recreational: 10-15 tonnes – line Commercial: less than 10 tonnes
Does the current size limit add to egg production at the current level of fishing mortality?	Limited

Size limit recommendation: Retain

Current MLL provides some protection for juvenile fish – significant capture of juvenile fish in nearshore environments with no known barotrauma issues. Note that a sand trevally – physically very similar and difficult to distinguish from silver trevally would rarely reach the current MLL.

Tripletail

Lobotes surinamensis

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	At least 550 mm (at least 5 years)
Length (mm) at maturity (L50)	Unknown
Growth	Unknown
Reproduction	Unknown
Habitat and distribution	Estuarine and nearshore waters Exmouth to Northern Territory border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	High/Moderate
% of fish discarded (2013/14 boat survey)	36%
Vulnerability rating	Medium
Catch and method of capture	Recreational: less than 5 tonnes – line Commercial: no reported catch
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Abolish

Limited targeting mainly around structures such as moorings in nearshore waters – no known sustainability issues.

Western Australian Salmon

Arripis truttaceus

Category: Nearshore/estuarine finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	960 mm (9 years)
Length (mm) at maturity (L50)	600 mm-650 mm (3-5 years)
Growth	Moderate
Reproduction	Annual spawning migration from south coast to lower west coast
Habitat and distribution	Adults – inshore and offshore Juveniles – estuarine waters from Jurien Bay to Northern Territory border
Breeding stock structure	A single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Low
% of fish discarded (2013/14 boat survey)	64%
Vulnerability rating	Low
Catch and method of capture	Recreational: less than 15 tonnes – line (Boat-based only) Commercial: 200-400 tonnes – net
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Abolish

Low vulnerability rating and most fish encountered by recreational and commercial fishers are well over current MLL. High discard rate as limited eating value. No known sustainability issues.

Whiting, King George

Sillaginodes punctatus

Category: Nearshore/estuarine finfish

Current MLL: 280 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	690 mm (17 years)
Length (mm) at maturity (L50)	Female – 410 mm (majority mature by 4 years)
Growth	Moderate
Reproduction	Multiple batch spawner
Habitat and distribution	Offshore, nearshore and estuarine waters Jurien Bay to South Australia border
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	High
% of fish discarded (2013/14 boat survey)	27%
Vulnerability rating	Medium
Catch and method of capture	Recreational: 15-30 tonnes – line (Boat-based only) Commercial: 10-30 tonnes – line, net
Does the current size limit add to egg production at the current level of fishing mortality?	Limited

Size limit recommendation: Increase MLL to 300 mm

Proposed increase in MLL will provide increased protection for juvenile fish and supports egg production through promoting the survival of juvenile fish. In particular the MLL assists in protecting small fish in readily accessible inshore and estuarine environments and allowing them to move into the offshore environment and reach maturity. Standardising MLL at 300 mm with other species will simplify rules.

Trout, Rainbow, Brown

Oncorhynchus mykiss and *Salma trutta*

Category: Freshwater finfish

Current MLL: 300 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	500 mm (3 – 4 years)
Length (mm) at maturity (L50)	Not applicable
Growth	Moderate
Reproduction	Stocked fish
Habitat and distribution	South-west freshwater dams, rivers and dams where stocked
Breeding stock structure	Bred from a single stock held at Pemberton Freshwater Research Centre
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	N/A
Vulnerability rating	Not applicable
Catch and method of capture	Recreational: line Commercial: not applicable
Does the current size limit add to egg production at the current level of fishing mortality?	No

Size limit recommendation: Retain

The species is a stocked fish and the current MLL represents a historical social limit. Maintain for social reasons.

Sooty Grunter

Hephaestus fuliginosus

Category: Freshwater finfish

Current MLL: 250 mm



Biology

Criteria	Characteristics
Maximum length (mm) and age (years)	At least 450 mm (At least 5 – 7 years)
Length (mm) at maturity (L50)	150 -250 mm
Growth	Unknown
Reproduction	Serial spawners
Habitat and distribution	Inland freshwater Kimberley
Breeding stock structure	Assumed to be a single biological stock
Post-discard mortality (barotrauma, depredation, or gear related)	Assumed to be low

Fishing pressure

Factor	Impact
Retained (eating quality)	Moderate
% of fish discarded (2013/14 boat survey)	78%
Vulnerability rating	Low
Catch and method of capture	Recreational: line Commercial: not applicable
Does the current size limit add to egg production at the current level of fishing mortality?	Unknown

Size limit recommendation: Abolish

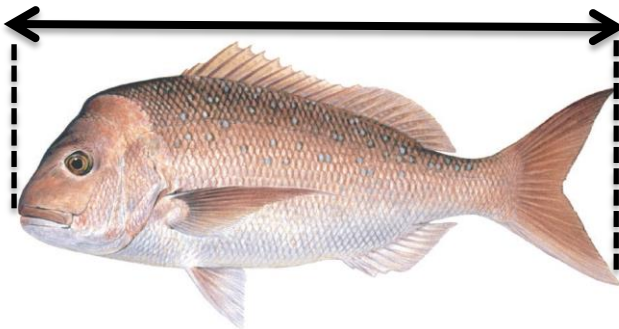
Limited fishing pressure and retention, with no known sustainability issues.

3.0 APPENDIX 1

3.1 Method of determining the length of a fish

In accordance with the Schedule 8, Part 3 of the *Fish Resources Management Regulations 1995*, total length of a fish is to be measured:

- a. When the fish is lying flat; and
- b. Without being held; and
- c. Lengthwise along the longest part of the fish to which both the skin and the flesh of the fish extends.



3.2 Method of determining the length of Whaler sharks

‘Interdorsal fin length’ is the measurement from the front of the first dorsal fin to the insertion of the second (rear) dorsal fin.

