

# Tailor (2016)

*Pomatomus saltatrix*



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## STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Western Australia	Western Australia	CSFNMF, SWTMF, WCBBFNMF, WL (WC), GDSMF, SBBSMNMF, SCEMF, SWCBNF, WCDGDLIMF, WCDSIMF, WCEMF	Sustainable	Catch, juvenile index
Queensland, New South Wales, Victoria	Eastern Australia	CIF, ECIFFF, EGF, GLF, OHF, OPSF, OTLF, PPBF	Sustainable	Biomass, catch, effort, fishery-dependent length and age frequency, estimates of total mortality rate

EGF Estuary General Fishery (NSW), OHF Ocean Hauling (NSW), OTLF Ocean Trap and Line (NSW), ECIFFF East Coast Inshore Fin Fish Fishery (QLD), CIF Corner Inlet Fishery (VIC), GLF Gippsland Lakes Fishery (VIC), OPSF Ocean Purse Seine Fishery (VIC), PPBF Port Phillip Bay Fishery (VIC), CSFNMF, SWTMF, WCBBFNMF, WL (WC) Cockburn Sound Crab Managed Fishery, South West Trawl Managed Fishery, West Coast (Beach Bait Fish Net) Managed Fishery, Open access in the West Coast (WA), GDSMF Gascoyne Demersal Scalefish Managed Fishery (WA), SBBSMNMF Shark Bay Beach Seine and Mesh Net Managed Fishery (WA), SCEMF South Coast Estuarine Managed Fishery (WA), SWCBNF South West Coast Beach Net Fishery (Order) (WA), WCDGDLIMF West Coast Demersal Gillnet and Demersal Longline (Interim) Managed Fishery (WA), WCDSIMF West Coast Demersal Scalefish (Interim) Managed Fishery (WA), WCEMF West Coast Estuarine Managed Fishery (WA)

## STOCK STRUCTURE

Genetic evidence indicates that there are two biological stocks of Tailor in Australia, one along the east coast and a second along the west coast[1]. The Eastern Australian biological stock is distributed from Bundaberg in southern Queensland along the entire New South Wales coast and into eastern Bass Strait in Victoria[2]. The Western Australian biological stock is distributed along the western coastline of Australia from Exmouth to Esperance[3,4]. Within each stock, multiple spawning groups may exist that spawn at different times and locations[2,5,6]. However,

several characteristics, such as the dispersal of pelagic eggs and larvae with prevailing currents, the movement of juveniles into sheltered nearshore or estuarine habitats in northern and southern areas of the species range, and the seasonal migration behaviour of adults, suggest that a genetically homogenous population occurs on each coast[2,3,5–7].

Here, assessment of stock status is presented at the biological stock level—Western Australia and Eastern Australia.

## STOCK STATUS

### Eastern Australia

Tailor is commonly fished throughout its distribution along the east coast of Australia. Queensland, New South Wales and Victoria each assess that part of the biological stock that occurs in their waters. The status presented here for the entire biological stock has been established using evidence from all three jurisdictions.

Tailor has a long history as a key fishery species for Indigenous, commercial and recreational fishers on the east coast. Since the 1970s, the Eastern Australian biological stock of Tailor has predominantly been targeted by the recreational fishery[10]. A recent assessment (2013)[10,11] indicated that the total recreational and commercial harvest of Tailor from Queensland and New South Wales peaked in the mid-1970s and again in the mid-1990s. These peaks coincided with periods of high recruitment of fish into the fishery, conceivably when favourable environmental factors allowed larger numbers of young Tailor to thrive[10]. Between 2001 and 2008, recruitment was considered to be below average[10]. When assessed in 2008, the combined Queensland and New South Wales component of the stock was above 50 per cent of unfished biomass, and the total harvest was below the estimated maximum sustainable yield (MSY) of 1326 t[10,11]. For perspective, in 2015, the combined harvest of tailor in Queensland and New South Wales remains below the MSY identified in 2008[12–14].

In Queensland, fishery-dependent monitoring shows relatively consistent length structures between 2001 and 2015 and indicates a range of ages, including older fish (4–7 year olds), are present in the harvest[12]. These are positive indicators of a stable population with continuing recruitment. The above evidence indicates that the biomass of the Queensland part of this stock is unlikely to be recruitment overfished.

In Queensland, management measures progressively introduced since 2002 have lowered fishing pressure, as indicated in the trends shown in harvest and effort for both recreational and commercial fisheries[12]. Commercial harvest reached historically low levels in 2013, and in 2015 remain low, relative to historic highs[12]. Commercial harvest effort (number of days fished and number of active licenses) remain low relative to the 10-year average[12]. Recreational harvest estimates in 2014 are low, relative to historic highs[12,13] and there has been a reduction in the participation rate by recreational fishers in the south of the state where Tailor are most commonly caught[13]. The MLS (350 mm TL) is set above the size at maturity[12,15], which reduces fishing pressure on the spawning stock and ensures that mature fish can spawn at least once before becoming available to the fishery. A seasonal closure also provides some protection of fish during the spawning period. Fishery-dependent age-frequency information shows evidence of continuing recruitment, with 2–5 year olds dominating the harvest[12]. Estimates of the total mortality rate from 2007–15 are high, but are considered to be within an acceptable range for this species[12]. The above evidence indicates that the current level of fishing pressure is unlikely to cause the Queensland component of the stock to become recruitment overfished.

In New South Wales, the length composition in commercial landings has remained consistent, typically ranging between 30 and 450 mm fork length[16]. Nominal commercial catch rates (kg per day of line fishing) have increased steadily since the late-1990s[16]. This above evidence indicates that the biomass of the New South Wales part of this stock is unlikely to be recruitment overfished.

In New South Wales, the MLS (300 mm TL) corresponds to the size at maturity. The recreational fishery is subject to the minimum legal length and a possession limit of 20 fish per person. Fishing pressure is considered adequately controlled in the commercial fishery through restrictive daily trip limits of 100 kg per day (ocean haul nets) or 50 kg per day (other netting methods). As a result, commercial landings have been reasonably stable since the early-2000s. The above evidence indicates that the current level of fishing pressure is unlikely to cause the New South Wales component of the stock to become recruitment overfished.

In Victoria, most of the commercial catch of Tailor since 2007 has come from the Gippsland Lakes[17]. Tailor is a transient species that moves between the ocean and the lakes system in that location, such that catches and catch rates are influenced by availability of fish (and consequent high variability between years). The most recent assessment (2016)[18] for Tailor in the Gippsland Lakes used the 5-year moving average commercial mesh net catch rate (kg per km per hour) as an indicator. These catch rates have increased since historical lows (0.2 kg per km per hour) in the mid-1990s to a peak of 2.5 kg per km per hour in 2012–13. Since 2012–13, the 5-year moving average catch rate has generally declined, but remains above the annual long-term average (based on a 32-year time series of data). The catch rates for this species are variable between years but show no evidence of a sustained decline. The above evidence indicates that the biomass of the Victorian part of this stock is unlikely to be recruitment overfished.

In Victoria, the MLS (230 mm TL) is below the size at maturity. The recreational fishery is subject to the minimum legal length and a bag/possession limit of 20 fish per person. Although there is no recent estimate of the recreational harvest of Tailor in Victoria, historically it was much less than in Queensland and New South Wales[8,12,14]. Commercial catch in 2015 of 30.9 t was above the 10-year average (28.7 t) and the number of commercial operators is less now than it was 10 years ago. The above evidence indicates that the current level of fishing pressure is unlikely to cause the Victorian component of the stock to become recruitment overfished.

On the basis of the evidence provided above, the Eastern Australian biological stock is classified as a **sustainable stock**.

## **Western Australia**

The Western Australian biological stock is accessed by one jurisdiction, Western Australia. Tailor is predominantly a recreational species in Western Australia, with approximately 85 per cent taken by shore-based fishers[4,8]. In the 1990s, there was a marked decline in size and numbers of Tailor caught along the West Coast Bioregion. Since then, management measures have been introduced to reduce the recreational catch[4], see below. The most recent stock assessment (2013)[4] for the Western Australian biological stock of Tailor used a weight-of-evidence approach to determine the current spawning stock abundance was adequate[4]. The strength of annual recruitment by juvenile Tailor in the Perth metropolitan area has been monitored since 1996. This recruitment index fluctuates in response to environmental factors and indicates periods of high and low recruitment over these years. Recent levels have been above the long-term average for 5 of the past 9 years, although the past 2 years have been below the average. Since 2001, the annual harvest and catch rates for the main

commercial fisheries landing Tailor in Western Australia (Shark Bay Beach Seine and Mesh Net Managed Fishery, and West Coast Estuarine [Interim] Managed Fishery) have been relatively stable (combined 20–35 tonnes [t]) and are considered adequate, even though the Shark Bay Beach Seine and Mesh Net Managed Fishery catch of Tailor has continued to decline and is below the historical range this is attributed to local processing restrictions[4,9]. The above evidence indicates that the biomass of this stock is unlikely to be recruitment overfished.

Management changes implemented in Western Australia between 1990 and 2009 (bag and size limits) have been effective in reducing the retained recreational harvest of Tailor. Although the current minimum legal size (MLS; 300 mm total length [TL]) is just below the size at maturity, the size-based possession limit (of only two fish over 500 mm TL in the West Coast Bioregion) ensures some protection for the breeding stock, and no additional management actions are expected to be implemented. The most recent stock assessment estimated a moderately high rate of natural mortality. However, the biological characteristics of fast growth rate and early maturity imply a low vulnerability of the stock to exploitation[4]. The above evidence indicates that the current level of fishing pressure is unlikely to cause the stock to become recruitment overfished.

On the basis of the evidence provided above, the Western Australian biological stock is classified as a **sustainable stock**.

## BIOLOGY

Tailor biology[4,6,7,15]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Tailor	11–13 years; 1200 mm <u>TL</u>	Eastern Australian biological stock: 1–2 years; males 290 mm <u>TL</u> ; females 310 mm <u>TL</u> Western Australian biological stock: 1–2 years; L50% 320 mm <u>TL</u>

## DISTRIBUTION



Distribution of reported commercial catch of Tailor

**TABLES**

Commercial Catch Methods	New South Wales	Queensland	Victoria	Western Australia
Hand Line, Hand Reel or Powered Reels	✓			
Haul Seine	✓		✓	
Line		✓	✓	
Mesh Net	✓		✓	
Net		✓		
Otter Trawl			✓	
Unspecified			✓	
Unspecified - Seine			✓	
Various	✓			✓

Fishing methods	New South Wales	Queensland	Victoria	Western Australia
<b>Commercial</b>				
Hand Line, Hand Reel or Powered Reels	✓			
Haul Seine	✓		✓	
Line		✓		
Mesh Net	✓		✓	

Net		✓		
Various	✓			✓
<b>Indigenous</b>				
Hand Line, Hand Reel or Powered Reels	✓	✓	✓	
Traditional apparatus	✓	✓		✓
<b>Recreational</b>				
Beach Seine				✓
Gillnet				✓
Hand Line, Hand Reel or Powered Reels	✓	✓	✓	✓
<b>Management Methods</b>				
	<b>New South Wales</b>	<b>Queensland</b>	<b>Victoria</b>	<b>Western Australia</b>
<b>Commercial</b>				
Gear restrictions	✓	✓	✓	✓
Limited entry	✓	✓	✓	✓
Seasonal or spatial closures	✓	✓	✓	✓
Size limit	✓	✓	✓	✓
Spatial zoning	✓			✓
Total allowable catch		✓		
Total allowable effort				✓
Trip limits	✓			
Vessel restrictions	✓			✓
<b>Indigenous</b>				
Bag limits	✓		✓	
Gear restrictions	✓	✓	✓	✓
Seasonal or spatial closures	✓		✓	
Section 31 (1)(c1), Aboriginal cultural fishina	✓			

authority				
Size limit	✓		✓	✓
<b>Recreational</b>				
Bag limits	✓	✓	✓	✓
Licence	✓		✓	✓
Limited entry (Charter only)	✓			✓
Passenger restrictions (Charter only)	✓			✓
Seasonal or spatial closures	✓	✓	✓	✓
Size limit	✓	✓	✓	✓
Spatial zoning (Charter only)	✓			✓

Active Vessels				
	New South Wales	Queensland	Victoria	Western Australia
	225 Vessel in EGF, 24 Vessel in OHF, 80 Vessel in OTLF,	106 License in ECIFFF,	12 Fisher in CIF, 10 Fisher in GLF,	16 License in GDSMF, 7 License in SBBSMNMF, 27 License in SCEMF, 9 License in SWCBNF, 5 License in WCDGDLIMF, 37 License in WCDSCMF, 11 License in WCEMF, 15 License in WL (WC),

**EGF** Estuary General Fishery(NSW)

**OHF** Ocean Hauling(NSW)

**OTLF** Ocean Trap and Line(NSW)

**ECIFFF** East Coast Inshore Fin Fish Fishery(QLD)

**CIF** Corner Inlet Fishery(VIC)

**GLF** Gippsland Lakes Fishery(VIC)

**GDSMF** Gascoyne Demersal Scalefish Managed Fishery(WA)

**SBBSMNMF** Shark Bay Beach Seine and Mesh Net Managed Fishery(WA)

**SCEMF** South Coast Estuarine Managed Fishery(WA)

**SWCBNF** South West Coast Beach Net Fishery (Order)(WA)

**WCDGLIMF** West Coast Demersal Gillnet and Demersal Longline (Interim) Managed Fishery(WA)

**WCDSCMF** West Coast Deep Sea Crustacean Managed Fishery(WA)

**WCEMF** West Coast Estuarine Managed Fishery(WA)

**WL (WC)** Open Access in the West Coast(WA)

Catch	New South Wales	Queensland	Victoria	Western Australia
<b>Commercial</b>	16.9955t in EGF, 5.0593t in OHF, 49.618t in OTLF,	55.437t in ECIFFF,	1.044t in CIF, 18.294t in GLF,	1.613t in CSFNMF, SWTMF, WCBBFNMF, WL (WC), 0.0587t in GDSMF, 9.375t in SBBSMNMF, 1.126t in SCEMF, 1.584t in SWCBNF, 0.0021t in WCDGLIMF, 0.0118t in WCDSIMF, 6.628t in WCEMF,
<b>Indigenous</b>	Unknown	Unknown	Unknown	Unknown
<b>Recreational</b>	107 t (2013–14)	75 t (2013–14)	Unknown	187 t (2001), 5.57 t (se =0.94; 2013–14)

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**a Queensland – Indigenous** In Queensland, under the Fisheries Act 1994 (Qld), Indigenous fishers in Queensland are able to use prescribed traditional and non-commercial fishing apparatus in waters open to fishing. Size and possession limits, and seasonal closures do not apply to Indigenous fishers. Further exemptions to fishery regulations may be applied for through permits.

**b Victoria – Indigenous** In Victoria, regulations for managing recreational fishing are also applied to fishing activities by Indigenous people. Recognised Traditional Owners (groups that hold native title or have agreements under the Traditional Owner Settlement Act 2010 [Vic]) are exempt (subject to conditions) from the requirement to hold a recreational fishing licence, and can apply for permits under the Fisheries Act 1995 (Vic) that authorise customary fishing (for example different catch and size limits, or equipment). The Indigenous category in Table 3 refers to customary fishing undertaken by recognised Traditional Owners. In 2015, there were no applications for customary fishing permits to access Tailor.

**c Indigenous** Subject to the defence that applies under Section 211 of the Native Title Act 1993 (Cth), and the exemption from a requirement to hold a recreational fishing licence, the non-commercial take by indigenous fishers is covered by the same arrangements as that for recreational fishing.

**d New South Wales – Indigenous (management methods)** Aboriginal Cultural Fishing



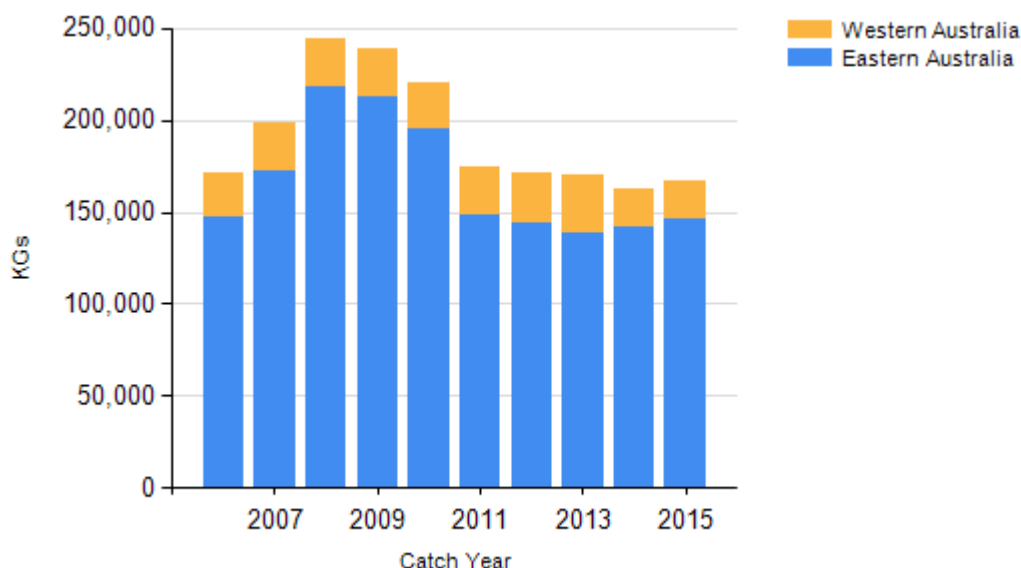
Interim Access Arrangement - allows an Indigenous fisher in New South Wales to take in excess of a recreational bag limit in certain circumstances, for example, if they are doing so to provide fish to other community members who cannot harvest themselves.

**e New South Wales – Indigenous (management methods)** Aboriginal cultural fishing authority - the authority that Indigenous persons can apply to take catches outside the recreational limits under the Fisheries Management Act 1994 (NSW), Section 37 (1)(c1), Aboriginal cultural fishing authority

**f Western Australia – Recreational (catch)** Boat-based recreational catch in Western Australia from 1 May 2013–30 April 2014/19

**g New South Wales – Indigenous (catch)** Tailor is a culturally significant species for Indigenous groups along the eastern seaboard. However, state-wide estimates of harvest are unknown. In northern New South Wales, Tailor is a dominant component of the Indigenous catch 20.

## CATCH CHART



Commercial catch of Tailor - note confidential catch not shown

## EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

- Commercial coastal-, river- and estuary-set gillnets have minimal impact on the environment and are quite selective in their harvest[21]. In general, gill, seine and haul net methods used by commercial fishers in nearshore and estuarine waters are deployed in a targeted manner and result in minimal bycatch relative to the harvest of the target species. Mesh size regulations help to ensure that target species caught by these methods are within an appropriate size range. Fishers using tunnel nets in Queensland operate under the industry code of best practice to minimise their environmental impacts[22]. Gillnets are not used in ocean waters in New South Wales.
- Commercial gillnets can occasionally interact with threatened, endangered and protected species. In most jurisdictions, commercial fishers are required to report all interactions with protected species.
- Discarded fishing tackle from recreational fishers poses a risk to seabirds and marine life, which can become entangled in or injured by discarded gear[23]. Programs to safely dispose of unwanted fishing tackle are in place in Western Australia south-east Queensland and New South Wales [23].
- Line-based fishing methods in near-shore and estuarine waters can result in the capture and release of a significant number of non-target species and undersized fish[13,14]. The rates of survival for released Tailor are high under some scenarios[24,25]. However, rates of survival for line-caught fish captured and released in surf breaks under current management arrangements are unquantified.

## ENVIRONMENTAL EFFECTS on Tailor

- Nearshore habitats are occupied by young Tailor, therefore Tailor populations may be vulnerable to any degradation in the quality of these habitats. Degradation may be from human causes (for example, pollution and habitat destruction) or natural causes (for example, floods), and has the potential to alter recruitment success of cohorts[12].
- Changes in coastal currents and water temperatures associated with climate change have the potential to alter fish behaviours (for example, spawning activity and migration) and to affect the dispersal of eggs and larvae, which may influence the subsequent recruitment of Tailor into fisheries[3,26,27].

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