

AUSTRALIAN SALMONS (2016)

Arripis trutta, *Arripis truttaceus*



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Western Australia, Victoria, South Australia	Western Australia	CIF, GLF, LCF, MF, MSF, NZRLF, OF, OPSF, PPBF, SCSMF, SZRLF, WCBBFNMF, SWCSMF, WL (SC)	Sustainable	Fishing mortality, catch, effort, catch rates
New South Wales, Victoria, Tasmania	Eastern Australia	CIF, EGF, GLF, OF, OHF, OPSF, PPBF, SF	Sustainable	Catch, catch rates, size composition, fishing mortality

EGF Estuary General Fishery (NSW), OHF Ocean Hauling (NSW), LCF Lakes and Coorong Fishery (SA), MF Miscellaneous Fishery (SA), MSF Marine Scalefish Fishery (SA), NZRLF Northern Zone Rock Lobster Fishery (SA), SZRLF Southern Zone Rock Lobster Fishery (SA), SF Scalefish Fishery (TAS), CIF Corner Inlet Fishery (VIC), GLF Gippsland Lakes Fishery (VIC), OF Ocean Fishery (VIC), OPSF Ocean Purse Seine Fishery (VIC), PPBF Port Phillip Bay Fishery (VIC), SCSMF South Coast Salmon Managed Fishery (WA), WCBBFNMF, SWCSMF, WL (SC) West Coast (Beach Bait Fish Net) Managed Fishery, South West Coast Salmon Managed Fishery, Open Access in the South Coast (WA)

STOCK STRUCTURE

There are two species of Australian Salmon: Western Australian Salmon (*Arripis truttaceus*) and Eastern Australian Salmon (*A. trutta*). Each species represents a single biological stock[1]. The Western Australian Salmon biological stock is distributed from Kalbarri in Western Australia southwards to South Australia, Victoria and the west coast of Tasmania. The Eastern Australian Salmon biological stock is distributed from southern Queensland down the east coast of Australia to western Victoria and Tasmania. Both species have spawning areas that allow eggs and larvae to be dispersed by the prevailing currents—southwards and then eastwards by the Leeuwin Current (Western Australian Salmon) and southwards by the East Australian Current

(Eastern Australian Salmon). The fish then grow and mature before moving back towards their spawning areas which occur at the northern (up-current) parts of their distributions.

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

STOCK STATUS

Eastern Australia This cross-jurisdictional biological stock has components in New South Wales, Victoria and Tasmania. Each jurisdiction assesses the part of the biological stock that occurs in its waters. The status presented here for the entire biological stock has been established using evidence from all jurisdictions.

For the New South Wales part of the biological stock, commercial landings are influenced largely by market demands. Annual landings have varied substantially since the mid-1990s in response to these demands. Catch rates (median catch per day hauling) have increased steadily during the past decade and are at historically high levels. The size and age compositions of fish in commercial landings have remained similar since the late-1970s[5]. The above evidence indicates that the biomass of this part of the stock is unlikely to be recruitment overfished. Australian Salmon in northern New South Wales are lightly fished commercially as fishing in this area is restricted to servicing the commercial bait market with an annual catch limit of 224 t in place. Estimates of overall fishing mortality are similar to estimates of natural mortality[5]. The above evidence indicates that the current level of fishing pressure is unlikely to cause this part of the stock to become recruitment overfished.

For the Victorian part of the biological stock, commercial landings have varied between 200 and 730 t annually, with a peak in 2007 and 2012. The annual catch in 2015 was relatively low (211 t) compared with 2012 (more than 730 t). The most recent assessment of this part of the stock indicates that, until 2011, there was little change in the size and age composition of fish in landings[5]. Little information is available after this time. However, the fishery continues to target mainly adolescent fish and the level of effort has remained steady. The above evidence indicates that the current level of fishing pressure for the Victorian component of the Eastern Australian Salmon biological stock is unlikely to cause the stock to become recruitment overfished.

For the Tasmanian part of the biological stock, the most recent assessment investigated catch and effort (but not biomass) up to the end of June 2015[6]. There are two distinct sectors in the commercial fishery: a small number of large vessels specifically equipped to capture and store large quantities of Eastern Australian Salmon, and a large number of smaller vessels which target the species on an opportunistic basis or take them as by-product, usually in small quantities. Typically, the majority of the landings (more than 85 per cent) have been caught by the large vessel sector using beach seine methods. However, during the last 2 years, catch and effort for this sector has been at historically low levels, reflecting shifts in targeting species and low market demand for Eastern Australian Salmon as Rock Lobster bait rather than changes in abundance[6]. The current level of commercial and recreational fishing pressure in Tasmania is well below historical levels and unlikely to cause the biological 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 This cross-jurisdictional biological stock has components in Western Australia, South Australia and Victoria. Each jurisdiction assesses that part of the biological

stock that occurs in its waters. The status presented here for the entire biological stock has been established using evidence from all jurisdictions.

In Western Australia, total commercial landings were relatively stable from the commencement of the fishery in the 1940s until approximately 2004. A sharp decline occurred between 2004 and 2011[2]. Catches were at historically low levels from 2011–15. Since 2004, fishing effort has followed a similar downward trend, as a result of weak market demand and low wholesale prices (landings in Western Australia are mainly sold as bait). These catch and effort declines mainly reflect changes in the south coast fishery, where the majority of annual landings occur. Total commercial fishing effort directed towards Australian Salmon in Western Australia is currently very low compared with historical levels, and the reduction in effort accounts for most of the catch decline since 2004. Estimates of current fishing mortality are lower than estimates of natural mortality[3]. Since the breeding component of this stock resides exclusively in Western Australia, with only immature/non-breeding fish occurring in South Australia and Victoria, the above evidence indicates that the spawning biomass of the stock is unlikely to be recruitment overfished.

For the South Australian part of the biological stock, total commercial landings have declined markedly since the mid-1990s. However, commercial effort has declined similarly. The current commercial fishing effort directed towards Western Australian Salmon in South Australia is very low compared with historical levels, and although variable, catch rates have not decreased[4]. This evidence indicates that the current level of fishing pressure by the South Australian fishery is unlikely to cause the biological stock to become recruitment overfished.

For the Victorian part of the biological stock, total commercial landings are very low compared with those in other states and compared with the quantity of Eastern Australian Salmon landed in Victoria (9.6 tonnes [t] in 2015). The low commercial landings of this species relative to the catches taken by other jurisdictions indicate that the current level of fishing pressure by the Victorian fishery is low. The above evidence indicates that the current level of fishing pressure is unlikely to cause the stock to become recruitment overfished.

Very low levels of fishing effort are currently directed towards Western Australian Salmon across all jurisdictions. The above evidence indicates that the current level of fishing pressure across each jurisdiction 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

Australian Salmon biology[5,7]

Species	Longevity / Maximum Size	Maturity (50 per cent)
AUSTRALIAN SALMONS	Eastern Australian Salmon (<i>Arripis trutta</i>): 12 years; 810 mm <u>FL</u> Western Australian Salmon (<i>A. truttaceus</i>): 12 years; 850 mm <u>FL</u>	Eastern Australian Salmon: 2–4 years; 300–400 mm <u>FL</u> Western Australian Salmon: 3–5 years; 600–650 mm <u>FL</u>

DISTRIBUTION



Distribution of reported commercial catch of Australian Salmon

TABLES

Commercial Catch Methods	New South Wales	South Australia	Tasmania	Victoria	Western Australia
Beach Seine			✓		
Coastal, Estuary and River Set Nets			✓	✓	
Gillnet			✓		
Hand Line, Hand Reel or Powered Reels		✓	✓		
Haul Seine	✓	✓			
Haul Seine/Beach Seine	✓				
Line				✓	
Mesh Net				✓	
Otter Trawl				✓	
Purse Seine	✓	✓		✓	
Traps and Pots				✓	
Trolling			✓		
Unspecified				✓	
Various		✓	✓		✓

Fishing methods	New South Wales	South Australia	Tasmania	Victoria	Western Australia
Commercial					

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Beach Seine			✓		
Gillnet			✓		
Hand Line, Hand Reel or Powered Reels		✓	✓		
Haul Seine	✓	✓			
Haul Seine/Beac h Seine	✓				
Line				✓	
Mesh Net				✓	
Purse Seine	✓	✓		✓	
Various		✓	✓		✓
Indigenous					
Hand Line, Hand Reel or Powered Reels	✓				
Recreational					
Gillnet			✓		
Hand Line, Hand Reel or Powered Reels	✓	✓	✓	✓	✓
Management Methods					
	New South Wales	South Australia	Tasmania	Victoria	Western Australia
Commercial					
Gear restrictions	✓	✓	✓	✓	✓
Limited entry	✓	✓	✓	✓	✓
Size limit		✓	✓	✓	
Spatial zoning	✓				✓
Trip limits	✓				
Vessel restrictions	✓				✓
Indigenous					
Bag limits	✓		✓	✓	✓
Gear restrictions	✓			✓	
Gillnet restrictions			✓		
Licence					✓
Section 31	✓				

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(1)(c1), Aboriginal cultural fishing authority					
Size limit			✓	✓	✓
Spatial closures	✓			✓	
Recreational					
Bag limits	✓	✓	✓	✓	✓
Gear restrictions	✓	✓	✓	✓	✓
Licence	✓		✓	✓	✓
Size limit		✓	✓	✓	✓
Spatial closures	✓		✓	✓	✓

Active Vessels	New South Wales	South Australia	Tasmania	Victoria	Western Australia
	54 License in EGF, 23 License in OHF, 12 License in OTF, 22 License in OTLF,	11 license in LCF, 69 license in MSF, 11 Vessel in LCF, 2 Vessel in NZRLF, 4 Vessel in SZRLF,	37 Vessel in SF,	15 Fisher in CIF, 7 Fisher in GLF, 12 Fisher in OF, 26 Fisher in PPBF,	9 Vessel in SCSMF, 5 Vessel in SWCBNF,

SCSMF South Coast Salmon Managed Fishery(WA)

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

EGF Estuary General Fishery(NSW)

OHF Ocean Hauling(NSW)

OTF Ocean Trawl Fishery(NSW)

OTLF Ocean Trap and Line(NSW)

CIF Corner Inlet Fishery(VIC)

GLF Gippsland Lakes Fishery(VIC)

OF Ocean Fishery(VIC)

PPBF Port Phillip Bay Fishery(VIC)

SF Scalefish Fishery(TAS)

LCF Lakes and Coorong Fishey (SA)

MSF Marine Scalefish Fishery(SA)

NZRLF Northern Zone Rock Lobster Fishery(SA)

SZRLF Southern Zone Rock Lobster Fishery(SA)

Catch	New South Wales	South Australia	Tasmania	Victoria	Western Australia
Commercial	13.631t in EGF.	2.59328t in LCF.	49.759t in SF.	10.129t in CIF.	120.375t in

	1001.13t in OHF,	61.225t in MSF,		0.36t in GLF, 7.575t in OF, 172.623t in OPSF, 30.141t in PPBF,	SCSMF, 36.839t in WCBBFNMF, SWCSMF, WL (SC),
Indigenous	Unknown	Unknown	Unknown	None	Unknown
Recreational	182 t (in 2013/14)	61 t (in 2013/14)	63.7 t (in 2012/13)	Unknown	6 t

EGF Estuary General Fishery (NSW), OHF Ocean Hauling (NSW), LCF Lakes and Coorong Fishery (SA), MF Miscellaneous Fishery (SA), MSF Marine Scalefish Fishery (SA), NZRLF Northern Zone Rock Lobster Fishery (SA), SZRLF Southern Zone Rock Lobster Fishery (SA), SF Scalefish Fishery (TAS), CIF Corner Inlet Fishery (VIC), GLF Gippsland Lakes Fishery (VIC), OF Ocean Fishery (VIC), OPSF Ocean Purse Seine Fishery (VIC), PPBF Port Phillip Bay Fishery (VIC), SCSMF South Coast Salmon Managed Fishery (WA), WCBBFNMF, SWCSMF, WL (SC) West Coast (Beach Bait Fish Net) Managed Fishery, South West Coast Salmon Managed Fishery, Open Access in the South Coast (WA),

a Victoria – Indigenous (management methods) 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 Australian Salmon.

b 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.

c 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.

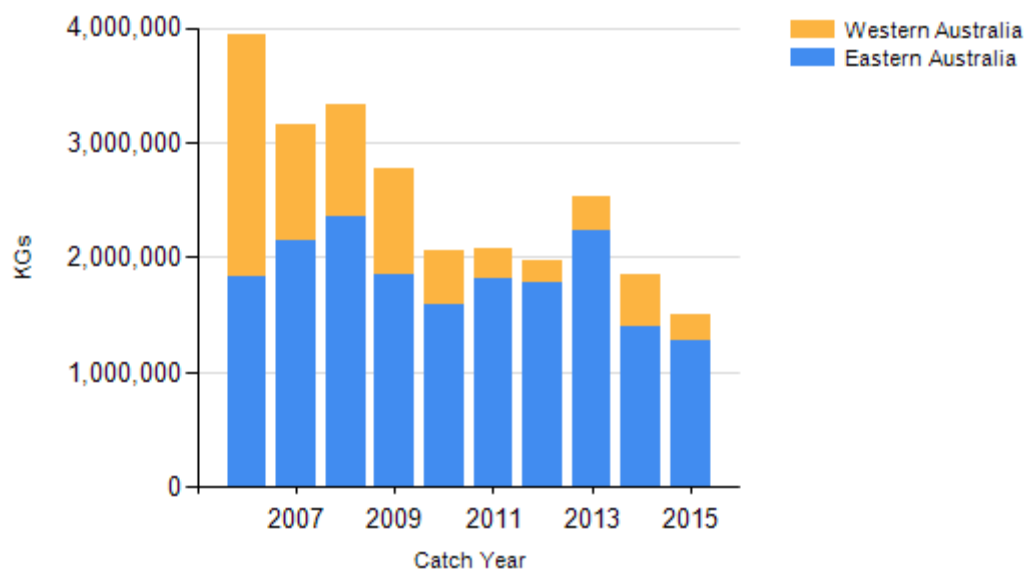
d Tasmania – Recreational (management methods) In Tasmania, a recreational licence is required for fishers using dropline or longline gear, along with nets, such as gillnet or beach seine.

e Tasmania – Indigenous (management methods) In Tasmania, aborigines engaged in aboriginal fishing activities in marine waters are exempt from holding recreational fishing licences, but must comply with all other fisheries rules as if they were licensed. Additionally, recreational bag and possession limits also apply. If using pots, rings, set lines or gillnets, Aborigines must obtain a unique identifying code (UIC). The policy document Recognition of Aboriginal Fishing Activities for issuing a Unique Identifying Code (UIC) to a person for Aboriginal Fishing activity explains the steps to take in making an application for a UIC.

f Tasmania – 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 Victorian recreational fishing licence, the non-commercial take by indigenous fishers is covered by the same arrangements as that for recreational fishing.

g Western Australia – Recreational (catch) Western Australian boat-based recreational catch from 1 May 2013–30 April 20148.

CATCH CHART



Commercial catch of Australian Salmon - note confidential catch not shown

EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

- Except for gillnets, the fishing methods used to target Australian Salmon around Australia are highly selective and targeted. As a result, there is little bycatch in these fisheries[2],[5,11].

ENVIRONMENTAL EFFECTS on AUSTRALIAN SALMONS

- The life cycles of Western and Eastern Australian Salmon are strongly linked to the prevailing currents throughout their distributions. The East Australian, Leeuwin and Capes Currents appear to influence the distribution of spawning, larval dispersal, the strength and distribution of juvenile recruitment, and the distribution of fishery landings[2,12]. Environmentally driven changes to these currents may affect recruitment and the distribution and abundance of both species.

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