

# Australian Herring (2020)

*Arripis georgianus*



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## STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Western Australia, New South Wales, Victoria, South Australia	Southern Australia	Sustainable	Catch, age and length composition

## STOCK STRUCTURE

Australian Herring occurs around southern Australia from Shark Bay (Western Australia) to Forster (New South Wales), although is uncommon east of Bass Strait. It constitutes a single biological stock across this range [Ayvazian et al. 2004, Smith and Brown 2014]. Spawning occurs in late May/early June in the south-west of Western Australia, with eggs and larvae being dispersed southwards and eastwards by the Leeuwin Current [Smith et al. 2013]. Fish grow and mature in each jurisdiction before migrating back to the spawning area where they remain as adults. There are no records of spawning by this species along the east coast.

Here, assessment of stock status is presented at the biological stock level—Southern Australia.

## STOCK STATUS

**Southern Australia** The most recent stock assessment is based on indicators derived from catch, age composition and length composition [Molony and Wise 2018]. Fishery catch rates (CPUE) are regarded as unreliable indicators of abundance for this stock [Molony and Wise 2018, Smith et al. 2013].

In Western Australia, total herring catches declined from about 1 500 tonnes (t) in 1990 to around 150 t since 2015. This was due largely to effort reductions implemented via management change. The recreational catch is not precisely known. Recreational catch trends are not readily attributable to changes in effort and are considered to primarily reflect changes in fish availability. The current recreational catch is believed to be similar in magnitude to the commercial catch. In 2015, the commercial South Coast Herring G net fishery was closed, and the recreational daily bag limit was reduced from 30 to 12. These changes,

combined with reduced commercial targeting since 1990, have allowed the stock biomass to increase.

Catch-MSY analyses based on total national catches estimated that catches exceeded MSY in the 1980s and 1990s [Molony and Wise 2018]. Simulations showed increasing biomass since the mid-2000s, with more than 50 per cent of trajectories exceeding 30 per cent unfished biomass since 2016. The biomass is predicted to continue to increase under current catch levels, although there is high uncertainty associated with low information catch-MSY analysis results. Estimates of spawning potential ratio (SPR) derived from length and age composition data indicate a current stock level between 30 per cent and 40 per cent, although also with wide confidence intervals. Age composition trends since 1980 suggest that some truncation of the age distribution occurred in the past [Molony and Wise 2018, Smith et al. 2013], although that hypothesis is being reexamined and strong recruitment is evident in more recent samples, which is consistent with increased recent productivity and stock recovery.

The current assessment for Western Australia indicates that the spawning biomass is above the limit reference level (20 per cent of the unfished level). The stock is not considered to be recruitment impaired. The current level of fishing mortality of Australian Herring in Western Australia is unlikely to cause the stock to become recruitment impaired.

The New South Wales commercial catch in 2012–19 averaged approximately 2 t per annum, and Australian Herring is not a major component of recreational landings [West et al. 2015, Murphy et al. 2020]. The current level of fishing mortality of Australian Herring in New South Wales is unlikely to cause the stock to become recruitment impaired.

In Victoria, Australian Herring are mostly harvested by netting methods, with most of the harvest historically being from Port Phillip Bay using purse seine. Total commercial harvests of Australian Herring in Victoria peaked at approximately 32 t in 2002 [VFA, unpublished data]. More recently, annual catches have been much lower at less than 200 kg, with none of this catch taken from the historical main fishery of Port Phillip Bay. This is a direct result of changes to management arrangements for the Port Phillip Bay commercial fishery, particularly the phasing out of commercial netting, and does not indicate changes in stock availability. Since 2016, 34 of the 43 licences have been bought out by the Victorian government. Commercial net fishing in Port Phillip Bay will cease by 2022 and has already ceased in Corio Bay. Catches of Australian Herring are expected to be low and incidental in the future. Recreational take of Australian Herring is unknown in Victoria, but thought to be low, as it is not a popular target species. The current level of fishing mortality of Australian Herring in Victoria is unlikely to cause the stock to become recruitment impaired.

In South Australia, the levels of fishing effort and catch of Australian Herring have declined substantially over the past three decades, particularly following the implementation of netting closures in 2005 [Steer et al. 2020]. The total State-wide commercial catch of Australian Herring was 96.6 t in 2018–19. Catch rates within the hauling net sector of the commercial Marine Scalefish Fishery have been highly variable with no clear trend [Steer et al. 2020]. The species is a popular target in the state's recreational fishing sector which harvested an estimated 157.2 t in 2014–15 [Giri and Hall 2015]. The Traditional take of Australian Herring in South Australia has not been quantified. On the basis of the evidence provided above, the Southern Australia biological stock is classified as a **sustainable stock**.

## BIOLOGY

### Australian Herring biology [Smith and Brown 2014]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Australian Herring	12 years, 410 mm TL	180–200 mm TL, 2 years

## DISTRIBUTION



Distribution of reported commercial catch of Australian Herring

## TABLES

Fishing methods	New South Wales	South Australia	Victoria	Western Australia
<b>Charter</b>				
Rod and reel				✓
<b>Commercial</b>				
Beach Seine				✓
Gillnet		✓		✓
Hand Line, Hand Reel or Powered Reels				✓
Handline		✓		
Haul Seine				✓
Hook and Line		✓		
Net			✓	
Seine Nets		✓		
Unspecified		✓		
<b>Recreational</b>				
Handline		✓	✓	✓

Hook and Line	✓			
<b>Management Methods</b>				
	New South Wales	South Australia	Victoria	Western Australia
Charter				
Gear restrictions	✓			
Licence	✓			
Spatial zoning	✓			
Commercial				
Effort limits		✓		
Gear restrictions	✓	✓	✓	✓
Limited entry	✓	✓	✓	✓
Spatial closures	✓	✓	✓	✓
Temporal closures		✓		
Vessel restrictions	✓			
Recreational				
Bag limits		✓	✓	✓
Gear restrictions	✓		✓	
Licence	✓		✓	
Licence (Recreational Fishing from Boat License)				✓
Marine park closures	✓			
Possession limit				✓
Spatial closures	✓		✓	

Catch	New South Wales	South Australia	Victoria	Western Australia
Commercial	0 t	96.2002 t	0.5769 t	65.3 t
Indigenous	Unknown	Unknown	Unknown (No catch under permit)	Unknown
Recreational	Unknown	157.23 t (in 2013/14)	Unknown	17 t (2017/18)

**Western Australia - Recreational** catch estimated in 2017/18, for boat-based fishing only [Ryan et al. 2019]. Current shore-based catch is unknown.

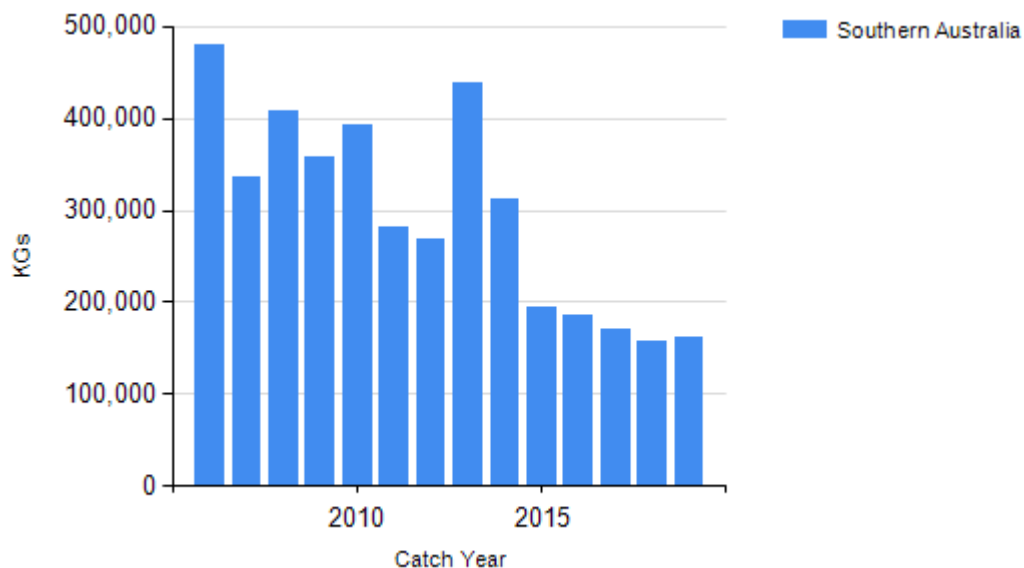
**New South Wales – Recreational (Catch)** Murphy et al. [2020]

**New South Wales – Indigenous (management methods)**

<https://www.dpi.nsw.gov.au/fishing/aboriginal-fishing>

**Victoria – Indigenous (Management Methods)** A person who identifies as Aboriginal or Torres Strait Islander is exempt from the need to obtain a Victorian recreational fishing licence, provided they comply with all other rules that apply to recreational fishers, including rules on equipment, catch limits, size limits and restricted areas. Traditional (non-commercial) fishing activities that are carried out by members of a traditional owner group entity under an agreement pursuant to Victoria’s *Traditional Owner Settlement Act 2010* are also exempt from the need to hold a recreational fishing licence, subject to any conditions outlined in the agreement. Native title holders are also exempt from the need to obtain a recreational fishing licence under the provisions of the Commonwealth’s *Native Title Act 1993*.

### CATCH CHART



Commercial catch of Australia Herring - note confidential catch not shown.

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