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Pristiophorus cirratus, Common Sawshark

Amendment version

Assessment by: Walker, T.I.



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Taxonomy

Kingdom	Phylum	Class	Order	Family	
Animalia	Chordata	Chondrichthyes	Pristiophoriformes	Pristiophoridae	

Scientific Name: Pristiophorus cirratus (Latham, 1794)

Synonym(s):

• Pristis cirratus Latham, 1794

Common Name(s):

• English: Common Sawshark, Longnose Sawshark

Taxonomic Source(s):

Eschmeyer, W.N., Fricke, R. and Van der Laan, R. (eds). 2016. Catalog of Fishes: genera, species, references. Updated 2 May 2016. Available at: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp. (Accessed: 2 May 2016).

Assessment Information

Red List Category & Criteria:	Least Concern ver 3.1		
Year Published:	2021		
Date Assessed:	April 14, 2015		

Justification:

The Common Sawshark (*Pristiophorus cirratus*) is a moderately abundant endemic species on the continental shelf and, to a lesser extent, the upper continental slope of southern Australia. The species is harvested over most of its range, but most of the catch is taken from Bass Strait by gillnets of mesh-size ranging 6–6½ inches, from southern New South Wales and eastern Victoria by demersal otter trawl and Danish seine, and the Great Australian Bight by demersal otter trawl. The Common Sawshark is currently actively managed with a Total Allowable Catch and Individual Transferable Quota. Current exploitation rates are assessed annually and considered sustainable, and as such this species is assessed as Least Concern.

Previously Published Red List Assessments

2020 – Least Concern (LC) https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T39327A176975610.en

2016 – Least Concern (LC) https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T39327A68640973.en

2003 – Least Concern (LC) https://dx.doi.org/10.2305/IUCN.UK.2003.RLTS.T39327A10201895.en 2000 - Lower Risk/near threatened (LR/NT)

Geographic Range

Range Description:

The Common Sawshark is endemic to the waters of southern Australia from Coffs Harbour in New South Wales (latitude ~30°18´S) to Jurien Bay in Western Australia (latitude ~30°18´S), including Tasmania (Last and Stevens 2009).

Country Occurrence:

Native, Extant (resident): Australia (New South Wales, South Australia, Tasmania, Victoria, Western Australia)

FAO Marine Fishing Areas:

Native: Pacific - southwest

Native: Indian Ocean - eastern

Distribution Map



Legend EXTANT (RESIDENT)

Compiled by: IUCN Shark Specialist Group 2016





Population

The Common Sawshark is moderately abundant with the highest concentrations in Bass Strait. Fisheryindependent surveys since the mid-1970s indicate that catch rates initially declined, but subsequently stabilised. Fishing effort and catch have reduced with implementation of a Total Allowable Catch for sawsharks (*P. nudipinnis* and *P. cirratus* combined).

Analyses of data from scientific on-board observer monitoring of commercial Commonwealth Trawl Sector catches and fishing effort indicate that for the 7-year period 2000–06 overall relative abundance (standardised catch per unit effort) about halved from 2000–03 to 2004–06 off southern New South Wales and eastern Victoria, but abundance was highly variable further westwards (Walker and Gason 2007). Fishery-independent survey of the Shark Gillnet Sector in Bass Strait with 6-inch mesh-size showed a major drop in abundance expressed as mean ± standard error of number caught per 1,000 km-lift hours from 1973–76 (1,184±446) to 1986–87 (184±46) and subsequent rises by 1998–01 (379±58) and 2007–08 (401±164). Off South Australia, where abundance of the species is much lower and where surveys have been less frequent, abundance dropped from 1986–87 (88±44) to 2007–08 (33±12) (Walker et al. 2005, Braccini *et al.* 2009). Catch per unit effort reported by commercial fishers peaked during the 1970s and subsequently halved for the period since that time for sawsharks (*P. nudipinnis* and *P. cirratus* combined) (Walker and Gason 2009). The catch mass ratio of *P. cirratus* to *P. nudipinnis* for 6-inch mesh-size during fishery-independent surveys was estimated at 6.68 during 1973–76 and 4.29 during 1998–01 (Walker *et al.* 2005a), 3.56 during 2007–08 (Walker 2005), and 4.19 during 2007–08 (Braccini *et al.* 2009).

Current Population Trend: Stable

Habitat and Ecology (see Appendix for additional information)

The Common Sawshark occurs on the continental shelf and upper slope in depths of 40–630 m (Last and Stevens 2009). In Bass Strait, 92% of sawsharks (*P. cirratus* and *P. nudipinnis* combined) were taken in depths less than 80 m (Walker and Gason 2009). Maximum size is 149 cm total length. The species exhibits aplacental viviparity and produces 6–22 offspring biennially, rising linearly with maternal length, and the young are born at ~36 cm TL. Size at which 50% of the females are mature is 113 cm TL (Hudson *et al.* 2005); males mature at ~97 cm TL (Last and Stevens 2009). This species has a maximum life span of 15 years and hence comparatively high productivity among chondrichthyans (Walker *et al.* 2005b).

Systems: Marine

Use and Trade

The species is a retained byproduct utilised mainly for its meat.

Threats (see Appendix for additional information)

The Common Sawshark is taken as byproduct in the Shark Gillnet Sector and Commonwealth Trawl Sector of the Southern and Eastern Scalefish and Shark Fishery; the species is rarely directly targeted and negligible quantities are taken off Western Australia.

The largest impact on the population of the Common Sawshark is their capture as byproduct from

targeting Gummy Shark (*Mustelus antarcticus*) with gillnets of 6–6½-inch mesh-size off Victoria and, to a less extent, Tasmania and South Australia (Walker 1999), and trawlers in the South East Trawl Fishery. During 1970–2006, the catch of sawshark (*P. cirratus* and *P. nudipinnis* combined) from the Shark Gillnet Sector varied 43–359 t carcass mass (headed and eviscerated with all fins attached) (Walker and Gason 2009).

The mean annual catch of the Common Sawshark from fishing methods other than shark gillnetting in the Southern and Eastern Scalefish and Shark Fishery for the period 2000–06 estimated by combining monitoring data from scientific on-board observers and mandatory catch and effort returns submitted by commercial fishing operators was 276 t whole mass of which 93% was retained for marketing and 7% discarded. The catch was taken off southern New South Wales and eastern Victoria by demersal otter trawl (64%) and Danish seine (7%) and in the Great Australian Bight (29%) (Walker and Gason 2007). Minor threats include capture in the shark gillnet fishery of Western Australia and fishing with longlines and other methods.

Conservation Actions (see Appendix for additional information)

In the shark fishery of southern Australia, the Common Sawshark has been retained as byproduct to the targeting of Tope (*Galeorhinus galeus*) and Gummy Shark (*Mustelus antarcticus*) in offshore waters since the mid-1920s and possibly earlier in inshore areas. Baited hooks attached to bottom-set longlines was the principal fishing method until the early 1970s when the method was replaced by bottom-set gillnets. Management measures in this fishery include limited entry for the use of gillnets and longlines (since 1984) and Total Allowable Catches (TAC) (for *P. cirratus* and *P. nudipinnis* combined) (since 2002) initially of 191 t carcass mass for the Shark Gillnet and Shark Hook Sectors, 124 t for the South East Trawl Sector, and 31 t for the Great Australia Bight Trawl Sector. An overall TAC of 339 t across all sectors applied in 2013–14. Input controls include limits on length of net (since 1988), various 4 to 6 week closed seasons to protect pregnant animals of the Tope during October to December (1953–67 and 1993–94), and a legal minimum mesh-size of 6 inches for gillnets (since 1975) for most of the fished area. The 3 nm closure of all Victorian waters since 1988 to shark gillnet fishing provides a large refuge for the species.

Several recent general management measures benefit the conservation of the Common Sawshark, in particular fishery restructuring, and spatial management arrangements. Restructuring of the Southern and Eastern Scalefish and Shark Fishery occurred during 2006–07 through buy-back of Commonwealth fishing licences (Penney *et al.* 2014) and implementation of markedly reduced overall fishing effort with progressive reductions in Total Allowable Catches (TACs), particularly in southern New South Wales (Walker and Gason 2007). The Commonwealth has adopted spatial closures to the Shark Gillnet Sector in South Australia for Australian Sea Lions (*Neophoca cinerea*). The first closure was adopted at the Pages Islands (largest sea lion colony) and around Kangaroo Island in 2003, and since 2011 up to 50 such closures have applied under temporary legislation (Penney *et al.* 2014). Existing closures have been retained and became permanent from the beginning of the 2015–16 fishing season (Georgeson *et al.* 2015).

Implementation of the Management Plan (operational since 1 July 2013) for the South-East Commonwealth Marine Reserves Network (proclaimed in 2007) prohibits demersal otter trawl and Danish seining, and in some areas all other fishing methods, in 14 Commonwealth marine reserves (including one at Macquarie Island outside the range of this species) covering ~388,464 km² over a

diverse range of temperate marine environments on the continental shelf, continental slope, and abyssal plain. Stretching from the far south coast of New South Wales, around Tasmania and Victoria, and west to Kangaroo Island off South Australia, the Network provides several refuges over the entire depth range of the Common Sawshark (Anonymous 2013). The Management Plan for the South-West Commonwealth Marine Reserves Network (not yet implemented as of February 2016) is similarly expected to provide further refuges for the Common Sawshark.

Credits

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Authority/Authorities:	IUCN SSC Shark Specialist Group (sharks and rays)

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External Resources

For <u>Supplementary Material</u>, and for <u>Images and External Links to Additional Information</u>, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
9. Marine Neritic -> 9.4. Marine Neritic - Subtidal Sandy	Resident	Suitable	-
9. Marine Neritic -> 9.5. Marine Neritic - Subtidal Sandy-Mud	Resident	Suitable	-
9. Marine Neritic -> 9.6. Marine Neritic - Subtidal Muddy	Resident	Suitable	-
11. Marine Deep Benthic -> 11.1. Marine Deep Benthic - Continental Slope/Bathyl Zone (200-4,000m)	-	-	-

Use and Trade

(http://www.iucnredlist.org/technical-documents/classification-schemes)

End Use	Local	National	International
1. Food - human	Yes	Yes	No

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.4. Unintentional effects: (large scale) [harvest]	Ongoing	Majority (50- 90%)	No decline	Low impact: 5
	Stresses:	2. Species Stress	ses -> 2.1. Species r	nortality

Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action in Place	
In-place research and monitoring	
Action Recovery Plan: No	
Systematic monitoring scheme: No	
In-place land/water protection	
Conservation sites identified: No	
Area based regional management plan: No	
Occurs in at least one protected area: Yes	

Invasive species control or prevention: Not Applicable

In-place species management

Harvest management plan: Yes

Successfully reintroduced or introduced benignly: No

Subject to ex-situ conservation: No

In-place education

Subject to recent education and awareness programmes: No

Included in international legislation: No

Subject to any international management / trade controls: No

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action Needed

3. Species management -> 3.1. Species management -> 3.1.1. Harvest management

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed

1. Research -> 1.2. Population size, distribution & trends

1. Research -> 1.3. Life history & ecology

3. Monitoring -> 3.1. Population trends

3. Monitoring -> 3.2. Harvest level trends

Additional Data Fields

Distribution

Lower depth limit (m): 630

Upper depth limit (m): 40

Amendment

Amendment
reason:The Threat code has been corrected from "5.3.4 Biological resource use - Logging &
wood harvesting - Unintentional effects: (large scale) [harvest]" to "5.4.4 Biological
resource use - Fishing & harvesting aquatic resources - Unintentional effects: (large
scale) [harvest]" in this amended assessment.

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