

# Common Blacktip Shark (2020)

*Carcharhinus limbatus*



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## STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Western Australia, Northern Territory	North and West Coast	Sustainable	Biomass, fishing mortality, catch, catch rate
Northern Territory, Queensland	Gulf of Carpentaria	Undefined	Catch
Queensland, New South Wales	East Coast	Sustainable	Catch, MSY

## STOCK STRUCTURE

Common Blacktip Shark have a circumglobal distribution in tropical and warm temperate waters. In Australian waters, genetic studies have identified three biological stocks of Common Blacktip Shark, a western stock extending from the western Northern Territory into northern Western Australia, a Gulf of Carpentaria (GoC) stock and an east coast stock in Queensland and New South Wales [Ovenden et al. 2007]. The stock boundary between the North and West Coast, and Gulf of Carpentaria biological stocks is uncertain.

Common Blacktip Shark are similar in appearance to the Australian Blacktip Shark (*C. tilstoni*). Previously taxonomical differentiation of these species was only possible by genetic analyses, precaudal vertebral counts or, in certain size classes, differences in size of maturity [Harry 2011]. A new identification technique, utilising body measurements and pelvic fin colouration, has been developed and may assist in distinguishing between these two species. However, accurate field identification remains difficult and is not practical during commercial fishing operations [Johnson et al. 2017]. Hybridisation between the species has also been recorded, though its implications for fisheries assessment and management remain poorly understood [Harry et al. 2012, Johnson 2017, Morgan et al. 2011]. Consequently, Common Blacktip and Australian Blacktip sharks are often reported as a species complex in commercial logbooks. For the purpose of these assessments a portion of the combined Blacktip Shark catch for each jurisdiction has been attributed to Common Blacktip Shark using relative abundance ratios determined from on board observer programs and published research [Johnson 2017, Ovenden 2007].

Here, assessment of stock status for Common Blacktip Shark is presented at the biological stock level—North and West Coast, Gulf of Carpentaria, and East Coast.

## STOCK STATUS

**East Coast** The East coast biological stock straddles two jurisdictions: Queensland, east of Torres Strait Islands, and northern New South Wales. In 2009 Queensland introduced a number of measures to limit shark harvests, including a precautionary 600 t annual total allowable commercial catch (TACC) limit (applying to all sharks and rays retained for sale on the Queensland east coast). This TACC was introduced in conjunction with an 'S' fishing symbol that significantly reduced the number of licences permitted to target sharks in high quantities. A stock assessment [Leigh 2015] based on data up to 2013 provided a range of annual maximum sustainable yield (MSY) estimates for Common Blacktip Shark on the Queensland East Coast from 237 t to 907 t. The MSY range is well above the estimated total commercial catch of Common Blacktip Shark reported from the east coast in 2018-19 (22 t) and the average ten year annual harvest (70 t). Longer term harvest records since 1991-92 indicate that commercial catches peaked between 2003-04 to 2007-08 (average 111 t), and catches have not exceeded the lower estimate of MSY. Commercial harvest of all sharks has declined in recent years, however this is due to decreased market demand for shark products and is unlikely to be related to biomass declines. The catch of Common Blacktip sharks in the Queensland Shark Control Program is negligible, averaging five individuals per year since 2001 [QFISH 2020]. Recreational harvest in Queensland is limited to one shark in possession and maximum legal size of 1.5 m total length.

Commercial catch records for the New South Wales Ocean Trap and Line Fishery indicate that the annual reported commercial catch of Blacktip Sharks (comprising mostly Common Blacktip Shark) from New South Wales waters ranged from 13–66 t during the 10 year period spanning financial years from 1998–99 to 2007–08 [Macbeth et al. 2009]. However, significant use of catch reporting categories 'Unspecified Sharks' (5–204 t) and 'Unspecified Whaler Sharks' (7–26 t) during that period suggest that these historical quantities are most probably underestimates. Since management intervention in this fishery in 2009, the tonnage of Blacktip Sharks caught has dropped substantially and the reliability of species-specific catch reporting has improved considerably [Macbeth et al. 2018]. A total of 25 t of Blacktip Sharks (comprising mostly *C. limbatus*) was landed in New South Wales during 2018-19. The catch of Blacktip Sharks in the New South Wales Shark Meshing Program is negligible, at less than 1 t per year. Collectively, these figures indicate that the overall catch of this species in New South Wales waters is insignificant in terms of impacting the East Coast stock.

The most recent assessment, using data up to 2019, was undertaken for the East Coast biological stock of Common Blacktip Shark utilising a catch Maximum Sustainable Yield (catch-MSY) model. The assessment estimated that the harvest rate for Common Blacktip Shark was below that required to reach MSY and that the biomass in 2019 was 68% of the unfished biomass [Usher et al. 2020a]. Overall the information provided above indicates that the stock is not considered to be depleted and that recruitment is unlikely to be impaired. Furthermore, the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

On the basis of the evidence provided above, the East Coast biological stock of Common Blacktip Shark is classified as a **sustainable stock**.

**Gulf of Carpentaria** The Gulf of Carpentaria biological stock straddles two jurisdictions: The Northern Territory, east of the Wessel Islands-Queensland border and Queensland, west

of Torres Strait Islands to the Northern Territory border. Most Common Blacktip Sharks are caught by Queensland Fisheries (Queensland 18 t; Northern Territory 2 t) however there are limitations associated with the species identifications and the quantity and reliability of available catch data [Leigh 2015] with these shark fisheries. Consequently, current catch levels and their impact on the biological stock are poorly known, and there is insufficient information to confidently classify the status of this stock. This situation is expected to improve through time with the introduction of a new Shark and Ray logbook into the Gulf of Carpentaria on 1 January 2018, which limits the 'Blacktip Whaler' category to Common and Australian Blacktip sharks only.

On the basis of the evidence provided above, the Gulf of Carpentaria biological stock of Common Blacktip Shark is classified as an **undefined stock**.

**North and West Coast** The North and West Coast biological stock straddles two jurisdictions: The Northern Territory, west of the Wessel Islands–Western Australian border; and Western Australia.

Changing operational practices in the NT Offshore Net and Line Fishery have greatly reduced the take of Common Blacktip Shark in the Northern Territory. There has been little to no shark-targeted fishing occurring in the Northern Territory since 2012 as a result of declining shark fin prices and increasing value of Grey Mackerel (*Scomberomorus semifasciatus*), which is currently the main target species of this fishery. In this circumstance, the declining catches have provided opportunity for the population of Common Blacktip Shark to recover.

Although there is uncertainty regarding species composition and the magnitude of historical catches of Blacktip Sharks from Western Australia, harvests of Common Blacktip Shark in this jurisdiction have been negligible since April 2009 [Molony et al. 2013], allowing the biomass to increase.

The most recent stock assessment, using data up to 2019, was undertaken for the North and West Coast biological stock of Common Blacktip Shark utilising a catch-MSY model. The results estimated that the biomass was approximately 53 per cent of the unfished biomass and that harvests were below that required to achieve maximum sustainable yield [Usher et al. 2020b].

On the basis of the evidence provided above, the North and West Coast biological stock of Common Blacktip Shark is classified as a **sustainable stock**.

## BIOLOGY

Blacktip Sharks biology [Harry, 2011, Harry et al. 2019, Last and Stevens 2009]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Common Blacktip Shark	<i>Carcharhinus limbatus</i> : Maximum age unknown, 2 500 mm TL	<i>C. limbatus</i> : males 1 800 mm, females unknown

## DISTRIBUTION



Distribution of reported commercial catch of Common Blacktip Sharks

**TABLES**

<b>Fishing methods</b>				
	<b>New South Wales</b>	<b>Northern Territory</b>	<b>Queensland</b>	<b>Western Australia</b>
<b>Charter</b>				
Hook and Line		✓		
<b>Commercial</b>				
Beach Seine		✓		
Gillnet		✓		
Handline		✓		
Line			✓	
Longline (Unspecified)		✓		
Net			✓	
Various	✓			
<b>Recreational</b>				
Handline				✓
Hook and Line		✓	✓	
Rod and reel	✓			

<b>Management Methods</b>				
	<b>New South Wales</b>	<b>Northern Territory</b>	<b>Queensland</b>	<b>Western Australia</b>
<b>Charter</b>				

Bag limits				✓
Gear restrictions		✓		
Licence (boat-based sector)				✓
Possession limit		✓		
Spatial closures		✓		✓
<b>Commercial</b>				
Catch limits				✓
Effort limits	✓			
Effort limits (individual transferable effort)				✓
Gear restrictions		✓	✓	✓
Limited entry	✓			✓
Limited entry (licensing)			✓	
Maximum size limit			✓	
Possession limit			✓	
Processing restrictions	✓	✓		
Quota		✓		
Size limit			✓	
Spatial closures	✓	✓	✓	✓
Total allowable catch		✓	✓	
<b>Recreational</b>				
Bag and boat limits	✓			
Bag limits				✓
Gear restrictions	✓	✓	✓	✓
Licence (boat-based sector)				✓
Maximum size limit			✓	
Possession limit		✓	✓	
Spatial closures		✓		✓

Catch	New South Wales	Northern Territory	Queensland	Western Australia
Charter		Unknown		
Commercial	24.0391 t	8.1154 t	0 t	0 t
Indigenous	unknown	Unknown	Unknown	Unknwon
Recreational	unknown	Unknown	Unknown	No Common Blacktip Shark caught from boats [Ryan et al. 2019], shore-based catches are undetermined

**Western Australia – Recreational (Management methods)** A recreational fishing from boat licence is required for recreational fishing from a powered vessel in Western Australia.

**Queensland – Indigenous (management methods)** for more information see <https://www.daf.qld.gov.au/business-priorities/fisheries/traditional-fishing>

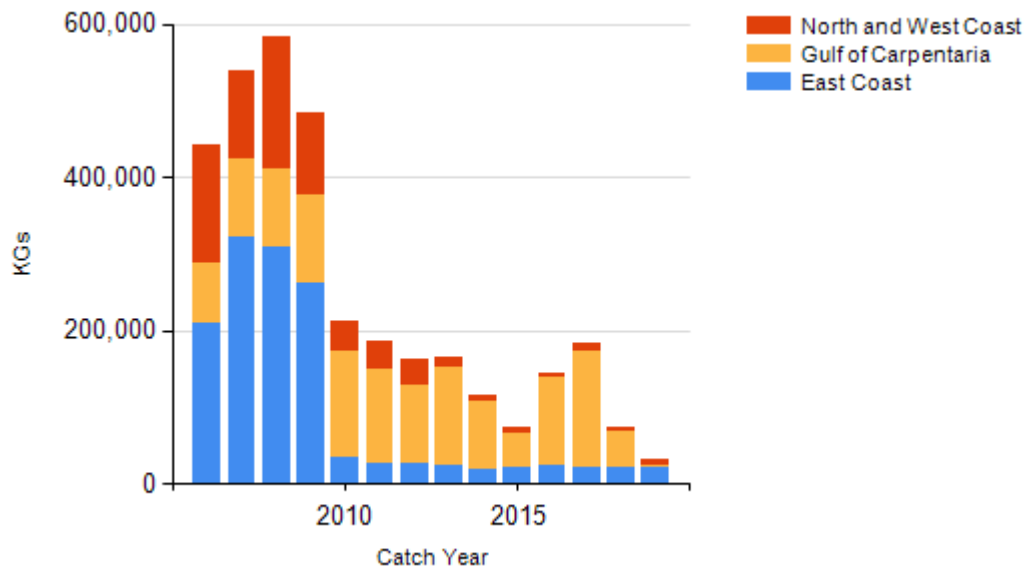
**New South Wales – Indigenous (Management Methods)**  
<https://www.dpi.nsw.gov.au/fishing/aboriginal-fishing>

**New South Wales** commercial fisheries with less than seven active fishers are not presented due to the Privacy Act.

**Northern Territory – Indigenous (Management methods)** The *Fisheries Act 1988* (NT), specifies that "...without derogating from any other law in force in the Territory, nothing in a provision of this Act or an instrument of a judicial or administrative character made under it limits the right of Aboriginals who have traditionally used the resources of an area of land or water in a traditional manner from continuing to use those resources in that area in that manner".

**Northern Territory — Charter (Management methods)** In the Northern Territory, charter operators are regulated through the same management methods as the recreational sector but are subject to additional limits on license and passenger numbers.

## CATCH CHART



Commercial catch of Common Blacktip Sharks - note confidential catch not shown

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