

# Common Blacktip Shark (2023)

*Carcharhinus limbatus*



**Michael Usher:** Department of Industry, Tourism and Trade, Northern Territory, **Matias Braccini:** Department of Primary Industries and Regional Development, Western Australia, **Victor Peddemors:** New South Wales Department of Primary Industries, **Ian Jacobsen:** Department of Agriculture and Fisheries, Queensland

## STOCK STATUS OVERVIEW

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

## 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 and, while a new investigation is helping to understand the prevalence and dynamics of this phenomenon [Queensland Department of Agriculture and Fisheries 2021], the current knowledge regarding its implications for fisheries assessment and management is limited [Harry

STATUS OF AUSTRALIAN FISH STOCKS REPORT  
Common Blacktip Shark (2023)

et al. 2012; Johnson et al. 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 et al. 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** In Queensland, the last stock assessment for the Common Blacktip Shark was completed in 2015 and was based on data up to and including 2013 [Leigh 2015]. This assessment produced Maximum Sustainable Yield (MSY) estimates for the Common Blacktip Shark on the Queensland east coast ranging from 237 t to 907 t. The lower bound of the MSY estimate range is highly conservative and was included in the assessment in response to concerns surrounding the quantity and quality of the available data on shark harvests [Leigh 2015].

Harvest for the Common Blacktip Shark peaked between 2003–04 and 2007–08 with an average annual harvest of 111 t. In 2021–22, the annual commercial harvest was 24 t, which was below the 10-year average of 35 t and well below the most conservative MSY estimate of 237 t [Leigh 2015]. This reflects a sustained long-term drop in harvest for the Common Blacktip Shark.

Observed declines in the annual harvest are attributed to poor market demand, declining effort and management reforms targeted at the commercial net fishery rather than declining biomass. The most significant reforms were implemented in 2009 and included the introduction of a combined 600 t Total Allowable Commercial Catch (TACC) limit for retained sharks and rays. In 2021, this limit was reduced to 400 t (not including Hammerhead Sharks) as part of a broader reform program for the East Coast Inshore Fishery (ECIF). These reforms included a transition in the ECIF to regional management, and a fishery-specific harvest strategy. The harvest strategy includes reference points, trigger limits and other measures to guide the long-term management of sharks harvested on the Queensland east coast [Queensland Department of Agriculture and Fisheries 2020].

Outside of the commercial fishing sector, the catch of Common Blacktip Sharks in Queensland waters is low to negligible. The Queensland Shark Control Program typically reports the capture of less than five individuals per year [Queensland Government 2023]. No recreational data is available for this species [Teixeira et al. 2021]. However, recreational harvest is limited by a one shark in possession limit and a maximum legal size limit 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

STATUS OF AUSTRALIAN FISH STOCKS REPORT  
Common Blacktip Shark (2023)

et al. 2018]. A total of 24.1 t of Blacktip Sharks (comprising mostly *C. limbatus*) was landed in New South Wales during the 2022 fiscal year. The catch of Blacktip Sharks in the New South Wales Shark Meshing Program is negligible, at less than 1 t per year [Dalton et al. 2023]. Collectively, these figures indicate that the overall catch of this species in New South Wales waters is minimal 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 biomass of 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. In this stock, most Common Blacktip Sharks are reported by Queensland Fisheries (Queensland 18 t; Northern Territory 1.3 t). However, there are limitations associated with the species identifications which impact the quantity and reliability of available catch data [Leigh 2015]. As a result of these deficiencies, Maximum Sustainable Yield (MSY) could not be estimated for the species in the Gulf of Carpentaria [Leigh 2015] and estimates of harvest in Queensland are currently Null as catch is attributed to *C. tilstoni* following Leigh [2015] and Ovenden et al [2007].

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  
Western  
Australia**

The North Western Australia 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. This is attributed to 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 are likely to have allowed the abundance of the population of Common Blacktip Shark to increase.

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; Braccini et al. 2021]. These negligible harvests are expected to allow for increasing biomass levels. In addition, recreational catches are negligible [Ryan et al. 2019].

The most recent stock assessment, using data up to 2021, was undertaken for

STATUS OF AUSTRALIAN FISH STOCKS REPORT  
Common Blacktip Shark (2023)

the North Western Australia biological stock of Common Blacktip Shark utilising a catch-MSY model (developed by Martell and Froese [2013] and modified by Haddon et al. [2018]). The results indicate that the inferred biomass exceeds the target reference point, with the 95% confidence intervals positioned above the target. This indicates that the stock is unlikely to be depleted and that recruitment is unlikely to be impaired. The assessment also estimated that recent harvests are below that required to achieve maximum sustainable yield [Northern Territory Government, unpublished]. The biomass of the stock is not considered to be depleted and the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

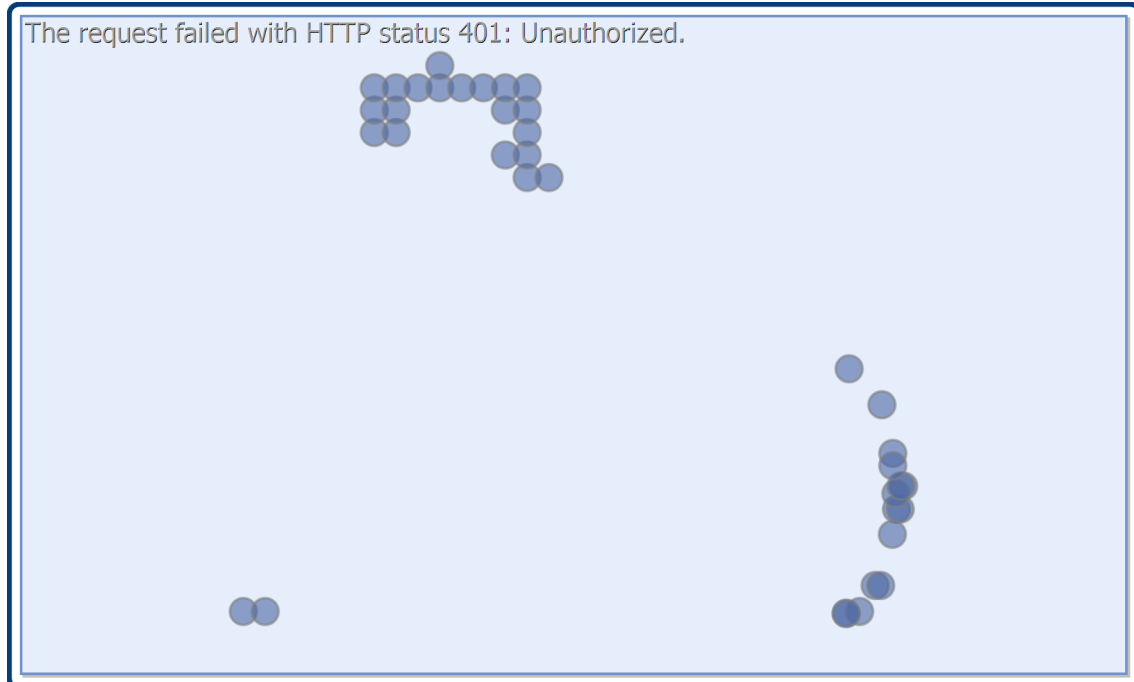
On the basis of the evidence provided above, the North Western Australia biological stock of Common Blacktip Shark is classified as a **sustainable stock**.

**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	Maximum age unknown, 2,500 mm TL	Males 1,800 mm, females unknown

**DISTRIBUTION**



Distribution of reported commercial catch of Common Blacktip Shark

**TABLES**

STATUS OF AUSTRALIAN FISH STOCKS REPORT  
Common Blacktip Shark (2023)

Fishing methods				
	New South Wales	Northern Territory	Queensland	Western Australia
<b>Charter</b>				
Hook and Line		✓	✓	
<b>Commercial</b>				
Demersal Longline	✓			
Gillnet		✓		✓
Hook and Line	✓			
Line			✓	
Mesh Net	✓			
Net			✓	
Otter Trawl	✓			
Unspecified		✓		
Various	✓			
<b>Recreational</b>				
Handline				✓
Hook and Line	✓	✓	✓	

Management Methods				
	New South Wales	Northern Territory	Queensland	Western Australia
<b>Charter</b>				
Bag limits	✓			✓
Bag/possession limits			✓	
Gear restrictions		✓	✓	
Licence	✓			
Licence (boat-based sector)				✓
Possession limit		✓		
Processing restrictions			✓	
Seasonal or spatial closures			✓	
Size limits			✓	

STATUS OF AUSTRALIAN FISH STOCKS REPORT  
Common Blacktip Shark (2023)

Spatial closures		✓		✓
<b>Commercial</b>				
Bag/possession limits			✓	
Catch limits				✓
Effort limits	✓			
Effort limits (individual transferable effort)				✓
Gear restrictions		✓	✓	✓
Harvest Strategy			✓	
Limited entry	✓		✓	✓
Processing restrictions	✓	✓	✓	
Quota		✓		
Seasonal or spatial closures			✓	
Size limits			✓	
Spatial closures	✓	✓		✓
Total allowable catch		✓	✓	
Vessel restrictions			✓	
<b>Recreational</b>				
Bag and boat limits	✓			
Bag limits				✓
Bag/possession limits			✓	
Gear restrictions	✓	✓	✓	✓
Licence (boat-based sector)				✓
Possession limit		✓		
Processing restrictions			✓	

STATUS OF AUSTRALIAN FISH STOCKS REPORT  
Common Blacktip Shark (2023)

<b>Seasonal or spatial closures</b>			✓	
<b>Size limits</b>			✓	
<b>Spatial closures</b>		✓		✓

<b>Catch</b>				
	<b>New South Wales</b>	<b>Northern Territory</b>	<b>Queensland</b>	<b>Western Australia</b>
<b>Charter</b>	Unknown	Unknown	Unknown	Unknown
<b>Commercial</b>	24.4089 t	48.8519 t	24.2291 t	0 t
<b>Indigenous</b>	unknown	Unknown	Unknown	Unknown
<b>Recreational</b>	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>

**Queensland – Commercial (Catch).** Queensland commercial and charter data have been sourced from the commercial fisheries logbook program. Due to low confidence in species-specific reporting caused by challenges in distinguishing between *C. limbatus* and *C. tilstoni*, catch for this species has been derived by combining harvest across the multiple blacktip shark reporting categories and applying a latitudinal split following Leigh [2015] and Ovenden et al. [2007]. Further information available through the Queensland Fisheries Summary Report <https://www.daf.qld.gov.au/business-priorities/fisheries/monitoring-research/data/queensland-fisheries-summary-report>

**Queensland – Recreational Fishing (Catch).** Data with high uncertainty (Residual Error >50 %) has been excluded and listed as unknown. More information available at: <https://www.daf.qld.gov.au/business-priorities/fisheries/monitoring-research/monitoring-reporting/statewide-recreational-fishing-surveys>

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

**Queensland – Commercial (Management Methods).** Harvest strategies are available at: <https://www.daf.qld.gov.au/business-priorities/fisheries/sustainable/harvest-strategy>

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

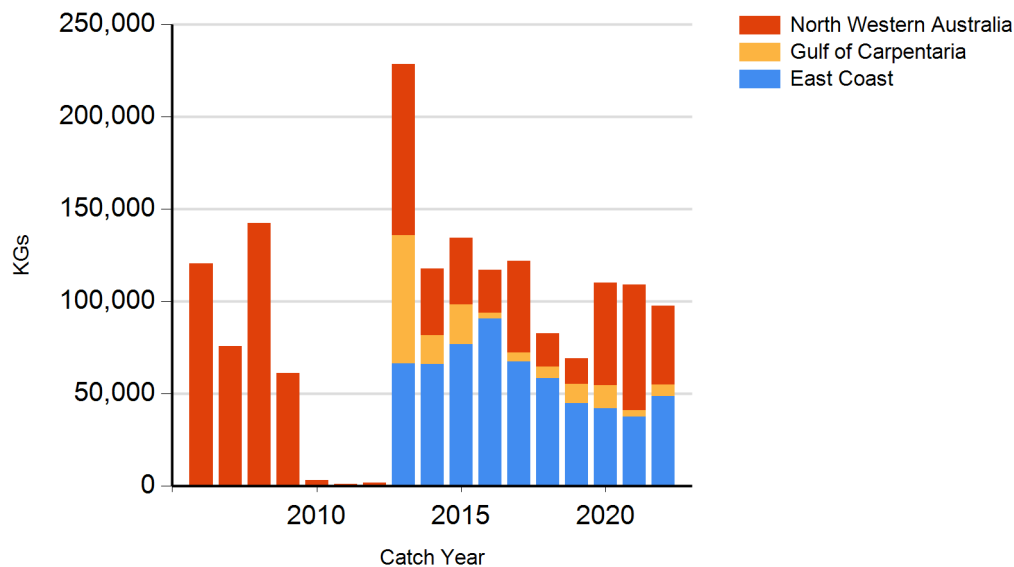
**Northern Territory - Indigenous (management methods).** The *Fisheries Act 1988* (NT), specifies that: “Unless expressly provided otherwise, nothing in this Act derogates or limits the right of Aboriginal people who have traditionally used the resources of an area of land or water in a traditional manner to continue 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



STATUS OF AUSTRALIAN FISH STOCKS REPORT  
Common Blacktip Shark (2023)



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

References	
Ryan et al. 2019	Ryan, KL, Hall, NG, Lai, EK, Smallwood, CB, Tate, A, Taylor, SM, Wise, BS 2019, Statewide survey of boat-based recreational fishing in Western Australia 2017/18. Fisheries Research Report No. 297. Department of Primary Industries and Regional Development, Government of Western Australia, Perth.
Molony et al. 2013	Molony, B, McAuley, R and Rowland, F 2013, Northern shark fisheries status report: Statistics only, in WJ Fletcher and K Santoro (eds), Status Reports of the Fisheries and Aquatic Resources of Western Australia 2012/13: The State of the Fisheries, Western Australian Department of Fisheries, Perth, 216–217.
Ovenden et al. 2007	Ovenden, JR, Street, R, Broderick, D, Kashiwagi, T and Salini, J 2007, Genetic population structure of Black-tip Sharks ( <i>Carcharhinus tilstoni</i> and <i>C. sorrah</i> ) in northern Australia, in J Salini, R McAuley, S Blaber, RC Buckworth, J Chidlow, N Gribble, JR Ovenden, S Peverell, R Pillans, JD Stevens, I Stobutzki, C Tarca and TI Walker (eds), Northern Australian sharks and rays: the sustainability of target and bycatch species, phase 2, Fisheries Research and Development Corporation, Cleveland, Queensland.
Harry 2011	Harry, AV 2011, Life histories of commercially important tropical sharks from the Great Barrier Reef World Heritage Area, PhD thesis, James Cook University, Townsville
Johnson et al. 2017	Johnson, GJ, Buckworth, RC, Lee, H, Morgan, JAT, Ovenden, JR and McMahon, CR 2017, A novel field method to distinguish between cryptic carcharhinid sharks, Australian blacktip shark <i>Carcharhinus tilstoni</i> and common blacktip shark <i>C. limbatus</i> , despite the presence of hybrids. <i>Journal of Fish Biology</i> , 90, 1, 39-60.
Morgan et al. 2011	Morgan, JA, Harry, AV, Welch, DJ, Street, R, White, J, Geraghty, PT, Macbeth, WG, Tobin, A, Simpfendorfer, CA and Ovenden, JR 2011, Detection of interspecies hybridisation in Chondrichthyes: hybrids and hybrid offspring between Australian ( <i>Carcharhinus tilstoni</i> ) and common ( <i>C. limbatus</i> ) Blacktip Shark found in an Australian fishery. <i>Conservation Genetics</i> , 13: 455–463.
Harry et al. 2012	Harry, AV, Morgan, JAT, Ovenden, JR, Tobin, A, Welch, DJ and Simpfendorfer, C 2012, Comparison of the reproductive ecology of two sympatric Blacktip Sharks ( <i>Carcharhinus limbatus</i> and <i>Carcharhinus tilstoni</i> ) off north-eastern Australia with species identification inferred from vertebral counts. <i>Journal of Fish Biology</i> , 81: 1225–1233.
Leigh 2015	Leigh GM 2015, Stock assessment of whaler and hammerhead sharks ( <i>Carcharhinidae</i> and <i>Sphyrinidae</i> ) in Queensland, Agri-Science Queensland, Department of Agriculture and Fisheries, Brisbane.
Harry et al. 2019	Harry, AV, Butcher, PA, Macbeth, WG, Morgan, JAT, Taylor, SM and Geraghty, PT 2019, Life history of the Common Blacktip Shark, <i>Carcharhinus limbatus</i> , from central eastern Australia and comparative demography of a cryptic shark complex. <i>Marine and Freshwater Research</i> , 70, 6, 834-848

STATUS OF AUSTRALIAN FISH STOCKS REPORT  
Common Blacktip Shark (2023)

Last and Stevens 2009	Last, PR and Stevens, JD 2009, <i>Sharks and rays of Australia</i> , CSIRO Publishing, Collingwood.
Macbeth et al. 2018	Macbeth, WG, Butcher, PA, Collins, D, McGrath, SP, Provost, SC, Bowling, AC, Geraghty, PT and Peddemors, VM 2018, Improving reliability of species identification and logbook catch reporting by commercial fishers in an Australian demersal shark longline fishery. <i>Fisheries Management and Ecology</i> , 25: 186-202.
Macbeth et al. 2009	Macbeth, WG, Geraghty, PT, Peddemors, VM, and Gray, CA 2009, Observer-based study of targeted commercial fishing for large shark species in waters of New South Wales, <i>Industry and Investment New South Wales</i> . Fisheries Final Report Series 82.
Usher et al. 2020a	Usher, M, Saunders, T and Roelofs, A 2020a, Stock Status Summary - 2020 Common Blacktip Shark ( <i>Carcharhinus limbatus</i> ) East Coast stock Catch-MSY. Unpublished Fishery Report
Northern Territory Government, unpublished	Stock Status Summary - 2022 Common Blacktip Shark ( <i>Carcharhinus limbatus</i> ) North and West Coast stock Catch-MSY. Unpublished Fishery Report
Braccini et al. 2021	Braccini, M, Kangas, M, Jaiteh, V and Newman, S 2021, Quantifying the unreported and unaccounted domestic and foreign commercial catch of sharks and rays in Western Australia. <i>Ambio</i> 50: 1337-1350
Dalton et al. 2023	Dalton, S, Peddemors, V and Doak, C 2023, Shark Mehsing (Bather Protection) Program 2022/23 Annual Performance Report. NSW Department of Primary Industries. 45 pp.
Martell and Froese 2013	Martell, S, and Froese, R 2013, A simple method for estimating MSY from catch and resilience. <i>Fish and Fisheries</i> 14:504–514.
Haddon et al. 2018	Haddon M, Punt A and Burch P 2018, simpleSA: A package containing functions to facilitate relatively simple stock assessments. R package version 0.1.18.
Department of Agriculture and Fisheries 2020	Queensland Fisheries Harvest Strategies. Available at: <a href="https://www.daf.qld.gov.au/business-priorities/fisheries/sustainable/harvest-strategy">https://www.daf.qld.gov.au/business-priorities/fisheries/sustainable/harvest-strategy</a> (Accessed 18 October 2023).
Department of Agriculture and Fisheries 2021	Department of Agriculture and Fisheries, Queensland 2021, Monitoring of Queensland's shark catch for the net fisheries: summary report. Project Report. State of Queensland, Brisbane.
Queensland Government 2023	Queensland Government, 2023, Shark Control Program: Shark Catch Statistics by Year. Available at: <a href="https://www.data.qld.gov.au/dataset/shark-control-program-shark-catch-statistics">https://www.data.qld.gov.au/dataset/shark-control-program-shark-catch-statistics</a> (Accessed: 2 August 2023).
Teixeira et al. 2021	Teixeira, D, Janes, R, and Webley, J 2021, 2019–20 Statewide Recreational Fishing Survey Key Results. Project Report. State of Queensland, Brisbane.