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# Triakis megalopterus, Spotted Gully Shark

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### **Taxonomy**

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Chondrichthyes	Carcharhiniformes	Triakidae

Scientific Name: Triakis megalopterus (Smith, 1839)

#### Synonym(s):

• Mustelus megalopterus Smith, 1839

#### Common Name(s):

• English: Spotted Gully Shark

• Afrikaans: Sloephaai

#### **Taxonomic Source(s):**

Fricke, R., Eschmeyer, W.N. and Van der Laan, R. (eds). 2020. Eschmeyer's Catalog of Fishes: genera, species, references. Updated 02 March 2020. Available at: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp.

### **Assessment Information**

Red List Category & Criteria: Least Concern ver 3.1

Year Published: 2020

**Date Assessed:** August 1, 2019

#### **Justification:**

The Spotted Gully Shark (Triakis megalopterus) is a medium-sized (to 208 cm total length) demersal houndshark endemic to southern Africa in the Southeast Atlantic and Western Indian Oceans from Angola to KwaZulu-Natal, South Africa. It inhabits shallow sandy areas and rocky crevices on the continental shelf to a depth of 50 m. The species has a late age-at-maturity and a long gestation period that lead to low productivity and vulnerability to overfishing. It is caught extensively in recreational line fisheries and occasionally as a minor bycatch species in beach seine, longline, and trawl fisheries. Recreational fishers typically release this species. Catches of the Spotted Gully Shark in the commercial and recreational line fisheries in False Bay, South Africa peaked in 1990 and declined thereafter. Trend analysis of 21 years of catch-per-unit-effort data from 1996-2017 from the De Hoop Marine Protected Area (MPA), South Africa indicate an increase in population over the past three generation lengths (60 years). Commercial fishing for Spotted Gully Shark is prohibited in South Africa with minimal bycatch of this species and recreational fishing permitted but regulated. Hence, this data from the MPA may approximate the trends of the species in the region. There are currently no data available from other areas, but given an estimated increase in South Africa over the past three generations (60 years), the typical release of this species by recreational fishers, likely low post-release mortality, and mostly low fishing pressure elsewhere, it is suspected that the population trend is stable over the past three generation lengths (60 years) and is not suspected to be close to reaching the population decline threshold. Therefore, the Spotted Gully Shark is assessed as Least Concern.

For further information about this species, see **Supplementary Material**.

#### **Previously Published Red List Assessments**

2009 – Near Threatened (NT) https://dx.doi.org/10.2305/IUCN.UK.2009-2.RLTS.T39362A10216379.en

2000 - Lower Risk/near threatened (LR/NT)

# **Geographic Range**

### **Range Description:**

The Spotted Gully Shark is a southern African endemic that occurs from southern Angola to KwaZulu-Natal, South Africa in the Southeast Atlantic and Western Indian Oceans (Ebert *et al.* 2013).

#### **Country Occurrence:**

Native, Extant (resident): Angola; Namibia; South Africa

#### **FAO Marine Fishing Areas:**

Native: Indian Ocean - western

Native: Atlantic - southeast

# **Distribution Map**





Compiled by: IUCN SSC Shark Specialist Group 2018







The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

# **Population**

There are no range-wide population size or trend estimates for this species. Population trend data of standardized catch-per-unit-effort (CPUE) (number of fish per angler per day) for 1997–2017 (21 years) were available from the De Hoop Marine Protected Area (MPA) shore-based research angling surveys conducted by the South African Department of Environmental Affairs (DEA, unpubl. data, 2018). The trend data were analyzed over three generation lengths using a Bayesian state-space framework (Winker and Sherley 2019). This analysis yields an annual rate of change, a median change over three generation lengths, and the probability of the most likely IUCN Red List category percent change over three generations (see the Supplementary Information).

The trend analysis revealed an annual rate of increase of 2.6%, consistent with an estimated median increase of 115.3% over the past three generation lengths (60 years), with the highest probability (99.9%) of an increase over three generation lengths. The De Hoop MPA was established in 1985 and is a no-take reserve, and this may not be representative of the population trends in fished areas of South Africa. However, commercial fishing for Spotted Gully Shark is prohibited in South Africa with minimal bycatch of this species and recreational fishing is permitted but regulated. Hence, it may approximate the trends of the species in the region.

In False Bay, South Africa, catches of this species in the recreational and commercial line fisheries peaked in 1990, declined afterwards, and remained low suggesting over-exploitation in that locality (Best *et al.* 2013). A demographic analysis of the Spotted Gully Shark in South Africa indicated that it is sensitive to overfishing but in the absence of fishing mortality, the population is stable (Booth *et al.* 2011). This species is likely exposed to minimal fishing pressure in Namibia and some intense fishing pressure in a few locations in southern Angola, with unfished areas in other parts of its Angola range.

Overall, the population is increasing in parts of its range over the past three generations lengths (60 years) and is exposed to minimal commercial fishing pressure and regulated recreational fishing across much of its range (i.e. South Africa). Exposure to intense fishing pressure occurs only over a small portion of its range. Thus, the population is suspected to be stable over the past three generation lengths (60 years) and the species is not suspected to be close to reaching the population decline threshold.

For further information about this species, see Supplementary Material.

**Current Population Trend: Stable** 

# Habitat and Ecology (see Appendix for additional information)

The Spotted Gully Shark is a demersal houndshark that inhabits shallow sandy areas and rocky crevices on the continental shelf to a depth of 50 m, but usually less than 10 m depth (Ebert *et al.* 2013, Weigmann 2016). It reaches a maximum size of 208 cm total length (TL), males mature at 125 cm TL and females mature at 140 cm TL (Ebert *et al.* 2013). Reproduction is lecithotrophic viviparous with litter sizes of 5–15 pups, a gestation period of 19–21 months, a two to three-year reproductive cycle, and size-at-birth of 40 cm TL (Smale and Goosen 1999, Ebert *et al.* 2013). Female age-at-maturity is estimated as 15 years and maximum age as 25 years; generation length is therefore estimated as 20 years (Booth *et al.* 2011).

Systems: Marine

### **Use and Trade**

The meat from the Spotted Gully Shark is sometimes dried and sold locally as shark 'biltong' or jerky, or exported fresh or frozen to Europe or Taiwan (Da Silva and Bürgener 2007, Compagno 2009). Since prohibition on commercial catch, this species is often deliberately mislabeled so that it can be marketed for its meat (C. Da Silva, unpubl. data, 2018).

### Threats (see Appendix for additional information)

The Spotted Gully Shark is targeted in recreational line fisheries and occasionally taken as bycatch in beach seine, commercial line, longline, and trawl fisheries (Compagno 2009, Booth *et al.* 2011, Best *et al.* 2013, Belhabib *et al.* 2015, da Silva *et al.* 2015). Recreational fishers typically release this species in South Africa, and some houndsharks have been shown to have low post-release mortality (Ellis *et al.* 2017). Effort in South African shore line fisheries has decreased as a result of a 2002 South African ban on all-terrain vehicles on beaches. Parts of Namibia are remote and offer refuge from fishing pressure (Belhabib *et al.* 2015). Since 2002, artisanal and recreational fishing pressure in a few parts of southern Angola has increased while other areas remain unfished (Beckensteiner *et al.* 2016).

### **Conservation Actions** (see Appendix for additional information)

This species was declared a prohibited commercial species in 2005 (DEAT 2005). However, since this prohibition, deliberate misreporting as other species in order to sell it illegally is an ongoing issue (C. Da Silva, unpubl. data, 2018). In South Africa, the Spotted Gully Shark is a legislated recreational species and recreational anglers in South Africa are restricted to one shark per species per day (maximum of 10 individuals per day) (DEAT 2005), although enforcement is an ongoing issue. A number of protected areas occur in South Africa across its range, including: the West Coast National Park, the iSimangaliso Marine Protected Area (MPA), and the uThukela MPA. Further research is needed on population size and trends.

### **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 -> 9.2. Marine Neritic - Subtidal Rock and Rocky Reefs	Resident	Suitable	Yes
9. Marine Neritic -> 9.4. Marine Neritic - Subtidal Sandy	Resident	Suitable	Yes

### **Use and Trade**

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

End Use	Local	National	International
Food - human	No	No	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 -> 5.4.1. Intentional use: (subsistence/small scale) [harvest]	Ongoing	Minority (50%)	No decline	Low impact: 4
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.3. Unintentional effects: (subsistence/small scale) [harvest]	Ongoing	Majority (50- 90%)	No decline	Low impact: 5
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
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 Stresses -> 2.1. Species mortality		

## **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 Action in Place**

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

### **Research Needed**

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

#### **Research Needed**

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

### **Additional Data Fields**

#### Distribution

Lower depth limit (m): 50

Upper depth limit (m): 0

#### **Habitats and Ecology**

Generation Length (years): 20

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