The IUCN Red List of Threatened Species™
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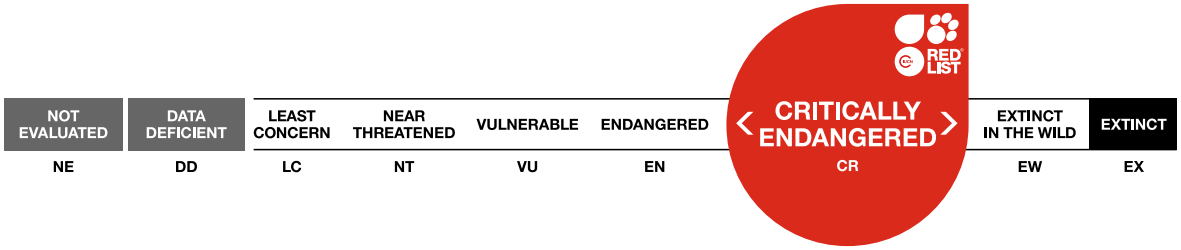
Scope(s): Global
Language: English

Sympterygia acuta, Bignose Fanskate

Assessment by: Pollom, R., Barreto, R., Charvet, P., Chiaramonte, G.E., Cuevas, J.M., Herman, K., Montealegre-Quijano, S., Motta, F. & Paesch, L.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Chondrichthyes	Rajiformes	Arhynchobatidae

Scientific Name: *Sympterygia acuta* Garman, 1877

Synonym(s):

- *Raja echinorhyncha* Miranda Ribeiro, 1923

Common Name(s):

- English: Bignose Fanskate
- Spanish; Castilian: Raya Marrón Oscuro

Taxonomic Source(s):

Fricke, R., Eschmeyer, W.N. and Van der Laan, R. (eds). 2020. Eschmeyer's Catalog of Fishes: genera, species, references. Updated 14 September 2020. Available at: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp.

Assessment Information

Red List Category & Criteria: Critically Endangered A2bd ver 3.1

Year Published: 2020

Date Assessed: July 1, 2019

Justification:

The Bignose Fanskate (*Sympterygia acuta*) is a small (to 62 cm total length) skate that occurs in the Southwest Atlantic from Rio de Janeiro, Brazil to Bahía Blanca, Buenos Aires, Argentina. It inhabits the continental shelf from inshore to 188 m depth. It is captured in intense largely unmanaged demersal trawl fisheries throughout its geographic range. It is one of the most commercially important species and the wings are sold mainly to Asian markets at high prices. In southern Brazil, research trawl catch-per-unit-effort revealed a decline in biomass of 74.5% between 1974 and 2005, equivalent to a population reduction of >83% scaled over three generations (40.5 years). This species is a target of the longline fishery in Uruguay, but now it is uncommonly captured in research trawl surveys there. Further, in Argentina, total skate landings have peaked and are declining as a result of overfishing. Overall, due to intense and largely managed trawl fisheries that operate throughout its geographic and depth range, it is suspected that the Bignose Fanskate has undergone a population reduction of >80% over the past three generations (40.5 years), and it is assessed as Critically Endangered A2bd.

Previously Published Red List Assessments

2004 – Vulnerable (VU)
https://dx.doi.org/10.2305/IUCN.UK.2004.RLTS.T44642A10931230.en

Geographic Range

Range Description:

The Bignose Fanskate occurs in the Southwest Atlantic from Rio de Janeiro, Brazil to Bahía Blanca, Buenos Aires, Argentina (Last *et al.* 2016).

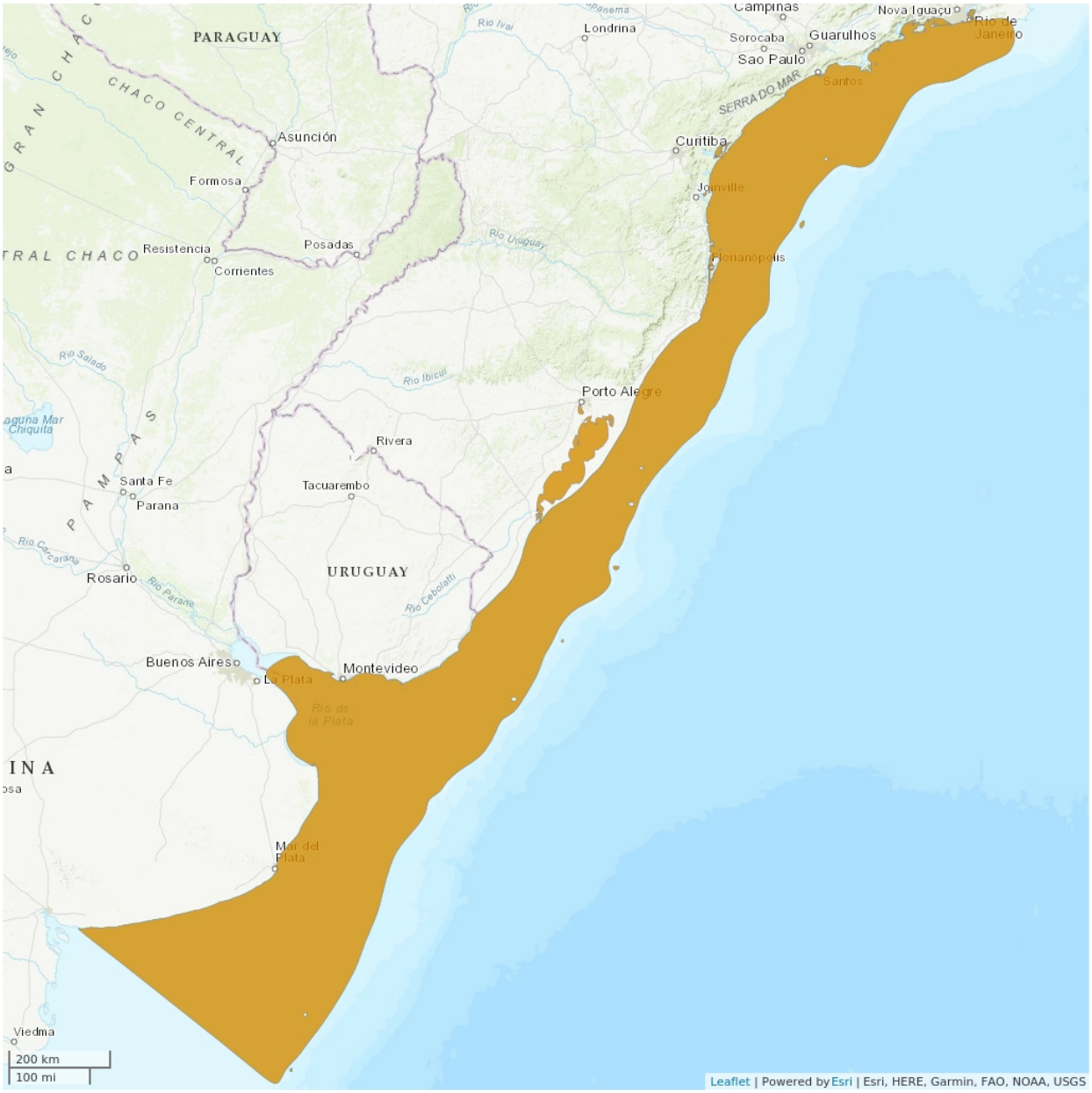
Country Occurrence:

Native, Extant (resident): Argentina; Brazil; Uruguay

FAO Marine Fishing Areas:

Native: Atlantic - southwest

Distribution Map



Legend

EXTANT (RESIDENT)

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.

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Population

In southern Brazil, this species has undergone a notable decline in size-at-maturity in Rio Grande do Sul, possibly due to fishing mortality (Basallo and Oddone 2014), and analyses of catch-per-unit-effort (CPUE) in research trawl data indicate a decline in biomass of 74.5% between 1974 and 2005 (Ferreira *et al.* 2010), equivalent to a population reduction of >83% if scaled over three generations (40.5 years). In the Uruguayan fisheries statistics of the coastal industrial trawler fleet, this species is included in the generic category 'skates' which refers mostly to the Smallnose Fanskate (*Sympterygia bonapartii*), therefore, there are no specific data for the Bignose Fanskate from that fishery. This species was found with low occurrence and low abundance in Uruguayan research trawl surveys carried out in the Argentina-Uruguay Common Fishing Zone (AUCFZ). In 794 research trawls between 2010 and 2016, this skate was recorded in 190 hauls (Paesch 2018). However, this species was formerly a target of the longline fishery in Uruguay, but now it is uncommonly captured suggesting the species is severely depleted. Further, in Argentina, total skate landings have peaked and are declining as a result of overfishing. In Argentina, reported landings of skates in general increased from 900 t in 1993 to a peak of 28,000 t in 2007, and then declined to 24,000 t in 2009–2010 (Ministerio de Agricultura Ganadería y Pesca 2010, cited in Estalles *et al.* 2011). The patterns in these reported landings data are not species-specific, but they do suggest a substantial increase in fishing pressure over the past several decades, and the more recent decline in landings may represent a population reduction (although this needs to be confirmed with estimates of standardized CPUE and/or fisheries-independent research). Overall, due to intense and inadequately managed trawl fisheries that operate throughout its range, possible signs of overfishing in this species, and declines in several indices of abundance, it is suspected that the Bignose Fanskate has undergone a population reduction of >80% over the past three generations (40.5 years).

Current Population Trend: Decreasing

Habitat and Ecology **(see Appendix for additional information)**

The Bignose Fanskate is demersal on the continental shelf from inshore to 188 m depth (Weigmann 2016). It reaches a maximum size of 62 cm total length (TL) and reaches maturity at 45–48 cm TL (Last *et al.* 2016). Reproduction is oviparous and occurs year-round; females lay an average of 52 egg cases annually and young hatch at 8 cm TL (Mabragaña *et al.* 2015, Last *et al.* 2016). Generation length is suspected to be similar to that of the related Whitedotted Skate (*Bathyraja albomaculata*), which has an age-at-maturity of 10 years, a maximum age of 17 years, and thus a generation length of 13.5 years (Henderson *et al.* 2005).

Systems: Marine

Use and Trade

This skate is taken as a utilized bycatch where caught, and is consumed or sold locally or exported to Asia. In Argentina, skates were discarded until 1994, but are now one of the most important commercial species (Chiaramonte 2014). The wings are removed and sold mainly to Asian markets at high prices (Dent and Clarke 2015).

Threats **(see Appendix for additional information)**

The Bignose Fanskate is captured in commercial and artisanal demersal trawl fisheries, which are

intensive throughout its range (Estalles *et al.* 2011, Port *et al.* 2016). In southern Brazil, the trawl fishery began in the 1960s and entered a period of rapid expansion in the 1990s and 2000s, resulting in over 650 vessels fishing at depths of 20–1,000 m (Port *et al.* 2016). In São Paulo state, there are over 300 small-scale trawl vessels (Rodrigues *et al.* 2019). In Uruguay, the industrial trawl fleet was developed in the late 1970s, and many stocks were over-exploited by the 1990s (Milessi *et al.* 2005, Defeo *et al.* 2011, Lorenzo *et al.* 2015). In Argentina, trawl fisheries started to expand in the 1950s and increased rapidly in the mid-1980s (Watson *et al.* 2006). Furthermore, this skate is targeted in unmanaged artisanal gillnet and longline fisheries in Uruguay and Argentina (Llompart *et al.* 2017, Laporta *et al.* 2018). Lastly, they are targeted in unmanaged recreational fisheries in Argentina (Llompart *et al.* 2017). All of these fisheries are intense and lack adequate management measures, and this skate does not have any refuge at depth.

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

This species is listed in the Brazilian Ordinance of Ministry of the Environment No. 445, which restricts all harvest and trade of species listed as Endangered or Critically Endangered on the Brazilian National Red List (Feitosa *et al.* 2018, Oddone *et al.* 2018). This legislation came into force in December 2014, however, it was suspended for all of 2015 and the first half of 2016 due to pressure from the fishing industry (Begossi *et al.* 2017). The ordinance faces increasing industry pressure, including a court challenge to suspend the legislation again, by the Secretaria Nacional de Aquicultura e Pesca (SAP), who brought forward their contention that the Brazilian National Red List was designed specifically for terrestrial species (Spautz 2019). It is included in the annual maximum permitted catch (MPC) of the Argentinian fishery for coastal skates. This measure is currently not likely to be an adequate management measure, because landings have been higher than the quotas. Management measures such as species-specific harvest control rules are needed to allow for recovery. Further research is needed on life history and population size and trends, and species-specific monitoring should be undertaken in trawl fisheries.

Credits

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

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Citation

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Disclaimer

External Resources

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

Appendix

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

Habitat	Season	Suitability	Major Importance?
9. Marine Neritic -> 9.3. Marine Neritic - Subtidal Loose Rock/pebble/gravel	Resident	Suitable	Yes
9. Marine Neritic -> 9.4. Marine Neritic - Subtidal Sandy	Resident	Suitable	Yes
9. Marine Neritic -> 9.5. Marine Neritic - Subtidal Sandy-Mud	Resident	Suitable	Yes
9. Marine Neritic -> 9.6. Marine Neritic - Subtidal Muddy	Resident	Suitable	Yes

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

End Use	Local	National	International
Food - human	Yes	Yes	Yes

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 -> 5.4.3. Unintentional effects: (subsistence/small scale) [harvest]	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	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%)	Slow, significant declines	Medium impact: 6
	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 sites identified: No

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Conservation Action in Place
Area based regional management plan: No
Occurs in at least one protected area: Unknown
Invasive species control or prevention: Not Applicable
In-place species management
Harvest management plan: No
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
1. Land/water protection -> 1.1. Site/area protection
3. Species management -> 3.1. Species management -> 3.1.1. Harvest management
3. Species management -> 3.1. Species management -> 3.1.2. Trade management
3. Species management -> 3.2. Species recovery
5. Law & policy -> 5.1. Legislation -> 5.1.2. National level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. National level

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
1. Research -> 1.4. Harvest, use & livelihoods
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.2. Harvest level trends

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Research Needed
3. Monitoring -> 3.3. Trade trends

Additional Data Fields

Distribution
Lower depth limit (m): 188
Upper depth limit (m): 0
Habitats and Ecology
Generation Length (years): 13.5

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The IUCN Red List Partnership

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