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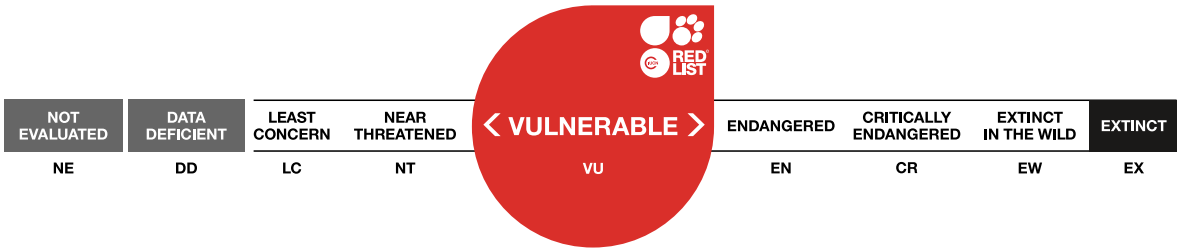
Myliobatis goodei, Southern Eagle Ray

Assessment by: Carlson, J. *et al.*



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Chondrichthyes	Myliobatiformes	Myliobatidae

Scientific Name: *Myliobatis goodei* Garman, 1885

Common Name(s):

- English: Southern Eagle Ray
- French: Aigle de Mer du Sud
- Spanish; Castilian: Chucho Amarillo

Taxonomic Source(s):

Eschmeyer, W.N., Fricke, R. and Van der Laan, R. (eds). 2016. Catalog of Fishes: genera, species, references. Updated 29 September 2016. Available at: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp. (Accessed: 29 September 2016).

Taxonomic Notes:

Records of eastern Atlantic *Myliobatis aquila* from southern Brazil probably refer to this species, if both species are indeed distinct (if not, the name *M. aquila* has priority). There are two sister species in the southern part of its range under the present name *M. goodei*, with a description of the second species pending (Ruocco *et al.* 2012).

Assessment Information

Red List Category & Criteria: Vulnerable A2d ver 3.1

Year Published: 2020

Date Assessed: June 21, 2019

Justification:

The Southern Eagle Ray (*Myliobatis goodei*) is a medium-sized (to at least 115 cm DW) coastal eagle ray that occurs in the Western Central and Southwest Atlantic Oceans from South Carolina and Florida, USA and Quintana Roo, Mexico to San Jorge Gulf, Santa Cruz, Argentina. It inhabits continental shelves from inshore to depths of 181 m. It is captured using artisanal longlines, gillnets, beach seines, and in industrial shrimp trawls. This species is inferred to be stable or increasing in the Western Central Atlantic, based on its similarity to the Bullnose Eagle Ray (*Myliobatis freminvillei*). In the Southwest Atlantic artisanal fisheries are intense, further there are largely unmanaged commercial trawl and longline fisheries in many areas. In Brazil, landings of eagle rays have been reduced by 60% over 2000–2012 in Santa Catarina State, and a reduction of 91% in Rio Grande do Sul since the 1980s. This inshore eagle ray has no refuge at depth and is exposed to intense and often unmanaged fishing pressure throughout the Atlantic South American portion of its range and there it is suspected that this species has undergone a population reduction of >80% over the past three generation lengths (44 years), but is stable in the Western Central Atlantic. Overall, based its range with the almost all threats found in the Southwest Atlantic, the suspected low productivity of the species, this species is suspected

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to have undergone a population reduction of 30–49% in three generation lengths (44 years) due to levels of exploitation, and it is assessed as Vulnerable A2d.

Previously Published Red List Assessments

2009 – Data Deficient (DD)
https://dx.doi.org/10.2305/IUCN.UK.2009-2.RLTS.T161436A5423507.en

Geographic Range

Range Description:

The Southern Eagle Ray occurs in the Western Central and Southwest Atlantic Oceans in South Carolina and Florida, USA and from Quintana Roo, Mexico to San Jorge Gulf, Santa Cruz, Argentina (Last *et al.* 2016). Its presence in the Gulf of Mexico, Costa Rica, and insular Caribbean requires further research (B. Naranjo Elizondo unpubl. data 2020).

Country Occurrence:

Native, Extant (resident): Argentina; Belize; Brazil; Colombia; Costa Rica; French Guiana; Guatemala; Guyana; Honduras; Mexico; Nicaragua; Panama; Suriname; United States; Uruguay; Venezuela, Bolivarian Republic of (Venezuela (mainland))

FAO Marine Fishing Areas:

Native: Atlantic - southwest

Native: Atlantic - western central

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

This species is inferred to be stable or increasing in the Western Central Atlantic, based on its similarity to the Bullnose Eagle Ray (*Myliobatis freminvilli*). In Atlantic South America, there are very few time-series of abundance. In Venezuela there are no data, but this species is captured in large numbers in artisanal fisheries there, which lack management. The situation is suspected to be similar in the Guianas, but there are no data. In northwestern Brazil, fishing pressure is intense and other elasmobranchs have been depleted there, and it is suspected that these fisheries are leading to a reduction in population size in that area. This species is also caught in large numbers in the intense artisanal gillnet, beach seine, and trawl fisheries further south in Brazil, and declines have been reported in Paraná and Rio Grande do Sul states (Araújo *et al.* 2018). Landings of eagle rays, in general, declined in Santa Catarina state by 60% since the 1980s (R. Baretto unpubl. data 2018) and declined by 91% in research trawls between 1974–2005 (Ferreira *et al.* 2010), equivalent to a >85% reduction for this species if scaled over three generation lengths (44 years). In Uruguay, *Myliobatis* species are not exploited by industrial fishing. Eagle rays are generally discarded in artisanal fisheries (or only retained for the fisherman's own consumption) (Silveira *et al.* 2018). Uruguayan time series of abundance from spring research cruises between 1984–1995 catches were between 1–3 t, and since 1996 have varied between 0.02 and 0.7 t (L. Paesch unpubl. data 2020, indicating a reduction of equivalent to a >75% reduction for this species if scaled over three generation lengths (44 years). In Argentina, there have been declines reported in eagle rays since the 1980s (Ruocco 2012). Overall, based on its range with the almost all threats found in the Southwest Atlantic, the suspected low productivity of the species, this species is inferred to have undergone a population reduction of 30–49% in three generation lengths (44 years). Therefore, the Southern Eagle Ray is assessed as Vulnerable (A2d).

Current Population Trend: Decreasing

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

The Southern Eagle Ray inhabits continental shelves from inshore to 181 m depth (Last *et al.* 2016, Weigmann 2016). It reaches a maximum size of at least 115 cm disc width (DW) (Araújo *et al.* 2018); males mature at ~45–55 cm DW and females mature at ~70 cm DW. Reproduction is matrotrophic viviparous with a litter size of six pups (Last *et al.* 2016). Generation length is estimated to be 14.5 years based on data for the Bat Ray (*Myliobatis californicus*), which has an age-at-maturity of five years and a maximum age of 24 years (Martin and Cailliet 1988), although this may be an overestimation as that species has a larger maximum size.

Systems: Marine

Use and Trade

Other members of this genus are utilized bycatch and catches are consumed or sold locally (Tagliafico *et al.* 2016). This species is likely to be used similarly where it is caught. In Brazil, it is marketed alongside the Bullnose Eagle Ray and other stingrays such as *Dasyatis* spp. and *Hypanus* spp. (P. Charvet unpubl. data 2019).

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

The Southern Eagle Ray is captured using artisanal longlines, gillnets, beach seines, and industrial shrimp trawls (Velasco *et al.* 2011, Tagliafico *et al.* 2016). There are no known threats in the Northwest and Western Central Atlantic but in the Southwest Atlantic artisanal fisheries are intense. Further, there are largely unmanaged commercial trawl and longline fisheries in many areas. In Venezuela, commercial and artisanal fisheries are intense, they lack management, and have exhibited peaks in catches followed by declines, indicative of sequential overfishing (Mendoza 2015). Groundfish fisheries on the Brazil-Guianas shelf were already fully over-exploited by 2000; these fisheries are multi-gear, multi-species, and multinational, with vessels crossing national maritime borders (Booth *et al.* 2001). Despite some areal closures and the implementation of a total allowable catch of target species, there is now a diminished effort and number of vessels in operation (Diop *et al.* 2015). In northern Brazil, artisanal fisheries pressure is high and 44% of target stocks were likely to be overfished by the end of the 2000s (Vasconcellos *et al.* 2011). The combination of intense and unmanaged artisanal and commercial fishing in that area has led to the disappearance of several elasmobranch species in the region, including Largetooth Sawfish (*Pristis pristis*), Smalltooth Sawfish (*Pristis pectinata*), Daggernose Shark (*Isogomphodon oxyrhynchus*), and Smalltail Shark (*Carcharhinus porosus*) (Charvet and Faria 2014, Lessa *et al.* 2016, Reis-Filho *et al.* 2016, Santana *et al.* 2020). In northeastern and eastern Brazil, artisanal fisheries are intense, gillnetting is the predominant artisanal gear, fishers there report that stocks are overexploited, and other sharks have been depleted (Guebert-Bartholo *et al.* 2011, Reis-Filho *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). Artisanal fisheries are also intense, and 58% of stocks targeted by artisanal fishers are overexploited, half of those being collapsed (Vasconcellos *et al.* 2011). This species is caught in gillnets and less frequently in trawls (P. Charvet unpubl. data 2019). In Uruguay, the industrial trawl fleet was developed in the late 1970s, and many stocks were overexploited by the 1990s (Defeo *et al.* 2011). In Argentina, trawl fisheries started to expand in the 1950s and increased rapidly in the mid-1980s (Watson *et al.* 2006). Gillnets are prevalent and target elasmobranchs (Chiaramonte 1998, Tamini *et al.* 2006, Colautti *et al.* 2010), and this is one of the most valued species in Buenos Aires Province (J-M. Cuevas unpubl. data 2018). This inshore eagle ray is exposed to intense and often unmanaged fishing pressure throughout the Atlantic South American portion of its range, and it has no refuge at depth.

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

There are no species-specific protections or conservation measures in place for this species. To conserve the population and permit recovery, a suite of measures will be required which will need to include species protection, spatial management, bycatch mitigation, and harvest management, all of which will be dependent on effective enforcement. Further research is needed on distribution, population size and trends, and threats. Commercial and artisanal fisheries should be monitored for bycatch to the species level.

Credits

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

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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 -> 9.4. 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	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 -> 5.4.3. 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
Area based regional management plan: No

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Conservation Action in Place
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 -> 5.4. 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
1. Research -> 1.5. Threats
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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Additional Data Fields

Distribution
Lower depth limit (m): 181
Upper depth limit (m): 0
Habitats and Ecology
Generation Length (years): 14.5

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The IUCN Red List Partnership

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