The IUCN Red List of Threatened Species™
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Scope(s): Global
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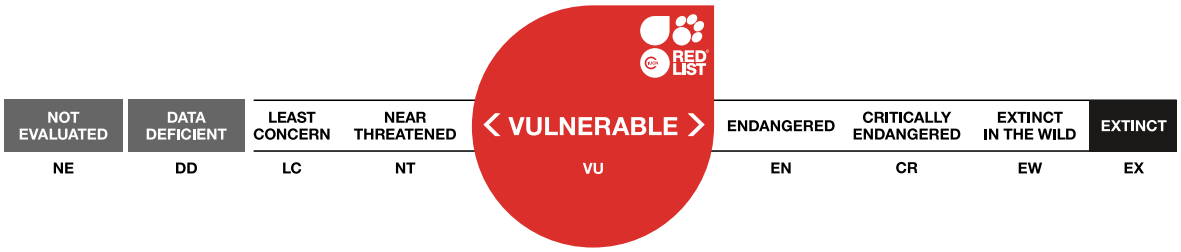
Myliobatis freminvillii, Bullnose Eagle Ray

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



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Chondrichthyes	Myliobatiformes	Myliobatidae

Scientific Name: *Myliobatis freminvillii* Lesueur, 1824

Common Name(s):

- English: Bullnose Eagle Ray, Bullnose Ray
- French: Aigle de Mer Taureau
- Spanish; Castilian: Chucho Blanco

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:

Easily confused with the Southern Eagle Ray *(Myliobatis goodei*) (Last *et al.* 2016).

Assessment Information

Red List Category & Criteria: Vulnerable A2bd ver 3.1

Year Published: 2020

Date Assessed: June 21, 2019

Justification:

The Bullnose Eagle Ray (*Myliobatis freminvillii*) is a medium-sized (to 106 cm disc width) demersal coastal eagle ray that occurs in the Northwest, Western Central, and Southwest Atlantic Oceans from Massachussetts, USA to the Texas coast of the Gulf of Mexico and from Venezuela to Buenos Aires, Argentina and inhabits continental shelves from the surface to a depth of 122 m. Its is captured by artisanal longlines, gillnets, beach seines and also in industrial shrimp trawls. In the Northwest Atlantic, population trend data are available from a deep-water trawl survey in the northern Gulf of Mexico that reveal steep increases in abundance over 2002–2013. 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 this area. This inshore eagle ray is exposed to intense and often unmanaged fishing pressure throughout the Southwest Atlantic portion of its range, and it has no refuge at depth. Due to the level of exploitation by widespread artisanal fisheries which lack adequate management, it is suspected that this species has undergone a population reduction of >80% over the past three generation lengths (44 years) in the Atlantic South American part of its range, but is stable in the Northwest and Western Central Atlantic. Overall, based on its range, with almost all threats found in the Southwest Atlantic, and the suspected low productivity of the species, the Bullnose Eagle Ray is suspected to have undergone a population reduction of 30–49% in the past three generation lengths (44 years) due to levels of exploitation, and it is assessed as Vulnerable

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A2bd.

Previously Published Red List Assessments

2009 – Data Deficient (DD)
https://dx.doi.org/10.2305/IUCN.UK.2009-2.RLTS.T161568A5453661.en

Geographic Range

Range Description:

The Bullnose Eagle Ray occurs in the Northwest, Western Central, and Southwest Atlantic Oceans from Massachussetts, USA to the Texas coast of the Gulf of Mexico and from Venezuela to Buenos Aires, Argentina (Last *et al.* 2016).

Country Occurrence:

Native, Extant (resident): Argentina; Brazil; French Guiana; Guyana; Suriname; United States; Uruguay; Venezuela, Bolivarian Republic of

FAO Marine Fishing Areas:

Native: Atlantic - southwest

Native: Atlantic - northwest

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

In the northwest Atlantic, population trend data are available from data in a deepwater trawl survey (A.G. Pollack, NOAA Fisheries, Southeast Fisheries Science Centre, Mississippi Laboratories unpubl. data 2019). The trend data was analysed over three generation lengths using a Bayesian state-space framework (a modification of Winker *et al.* 2018, Sherley *et al.* 2020). 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). Data from time series in the Gulf of Mexico suggests steep increases in abundance over the length of the time-series (2002–2013). The probability of the most likely IUCN Red List category over three generations was Least Concern. 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 (Mendoza 2015). The situation is suspected to be similar in the Guianas. 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 and less commonly in trawl fisheries further south, and landings have decreased in the state of Paraná (P. Charvet unpubl. data 2019). In Argentina, there have been declines reported in eagle rays since the 1980s (Ruocco 2012). Due to the level of exploitation by widespread artisanal and commercial fisheries which lack adequate management, it is suspected that this species has undergone a population reduction of >80% over the past three generation lengths (44 years) in the Atlantic South American part of its range. Overall, due to declines of eagle rays and intense and unmanaged fisheries off South America, combined with a recent increase in abundance of this species in the Gulf of Mexico, it is suspected that the Bullnose Eagle Ray has undergone a range-wide population reduction of 30–49% over the past three generation lengths (44 years).

For further information about this species, see Supplementary Material.

Current Population Trend: Decreasing

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

The Bullnose Eagle Ray is a coastal demersal eagle ray inhabiting continental shelves and often enters estuaries. It occurs from the surface to a depth of 122 m (Last *et al.* 2016, Weigmann 2016). It reaches a maximum size of 106 cm disc width (DW); males mature at 60–70 cm DW (Last *et al.* 2016). Reproduction is matrotrophic viviparous with a litter size of six pups and size-at-birth of ~25 cm DW (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

The Bullnose Eagle Ray is caught as utilized bycatch. Its meat consumed locally fresh or salted (Tagliafico *et al.* 2016). In Brazil, the meat is often marketed alongside other stingrays such as *Dasyatis* spp. and

Hypanus spp. (P. Charvet unpubl. data 2019).

Threats (see Appendix for additional information)

The Bullnose Eagle Ray is captured by artisanal and commercial longlines, gillnets, beach seines and shrimp trawls (Tagliafico *et al.* 2016). In the Southwest Atlantic, artisanal fisheries are intense and 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 northwestern 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). 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, 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
9. Marine Neritic -> 9.10. Marine Neritic - Estuaries	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

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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 -> 5.4. 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

Additional Data Fields

Distribution
Lower depth limit (m): 122
Upper depth limit (m): 0
Habitats and Ecology
Generation Length (years): 14.5

The IUCN Red List Partnership

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership.

The IUCN Red List Partners are: Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.