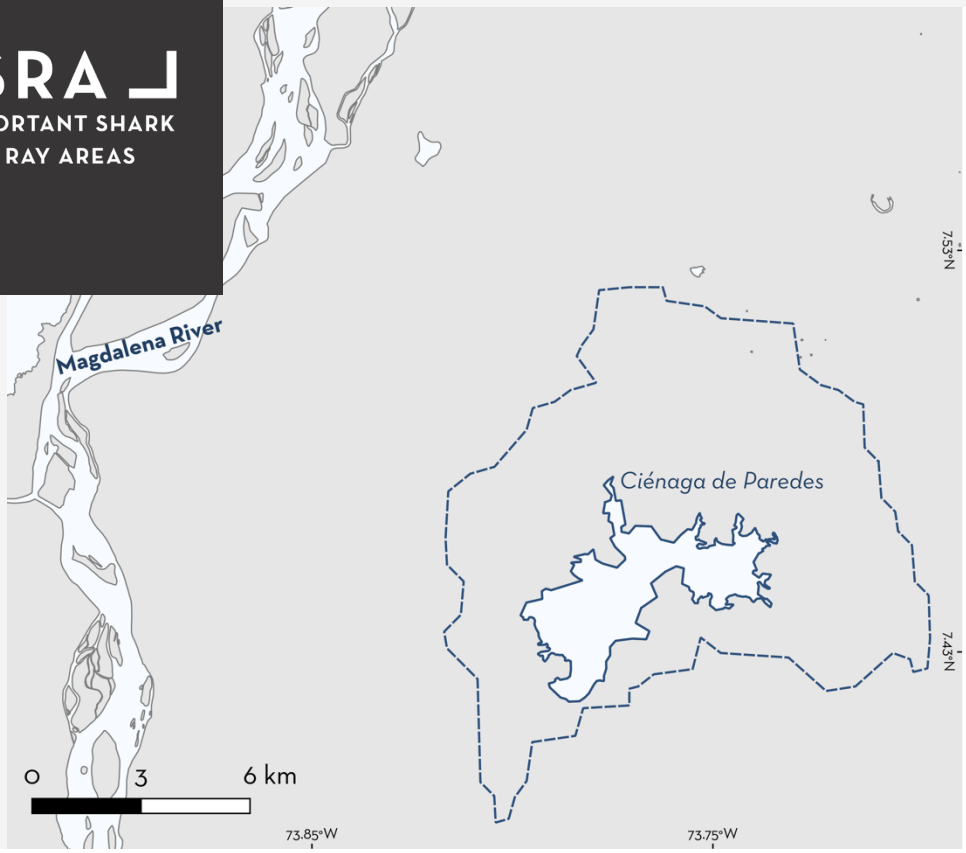
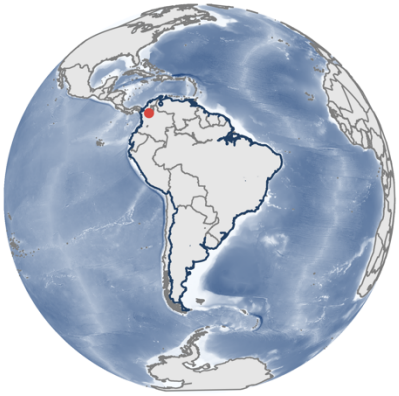
ISRA
IMPORTANT SHARK AND RAY AREAS





Blue lines indicate the area meeting the ISRA Criteria; dashed lines indicate the suggested buffer for use in the development of appropriate place-based conservation measures. Buffers for freshwater areas are determined based on hydroBASINS to capture watershed boundaries

CIÉNAGA DE PAREDES ISRA

South American Inland Waters Region

COLOMBIA

0–4 metres

14.02 km²

SUMMARY

Ciénaga de Paredes is located in the middle Magdalena River basin, Department of Santander, in Colombia. It is a shallow swamp with its main supply derived from the La Gómez stream, which is connected to the Lebrija River. This area is composed mainly of muddy substrates. Within this area there are: **reproductive areas** (Magdalena Freshwater Stingray *Potamotrygon magdalenae*).

CRITERIA

Sub-criterion C1 – Reproductive Areas

DESCRIPTION OF HABITAT

Ciénaga de Paredes is located in Colombia. It is situated in the middle Magdalena River basin, in Puerto Wilches municipality, Department of Santander, within the Orinoco Basin. The Magdalena River basin is the most important and extensive drainage system of the Andean-Caribbean region (Graca et al. 2025).

This area is a swamp covering an area of ~14.3 km^2, though its size fluctuates with seasonal rainfall patterns. It is considered a second-order marshy body, since the effluent river is a tributary of the main river, in this case the Magdalena River (Arias 1985). Its main supply channel is the La Gómez stream, which is connected to the Lebrija River by the Peruétano Canal (Riviera 2012). It has an average depth of ~4 m during the high-water season and close to 0.9 m between December–March (Castelblanco-Martínez et al. 2005). Rainfall has a defined bimodal cycle that reaches 3,000 mm annually, with maximum values at the end of May–November, and minimum values from December–February (Arias 1985; García-Lozano & Dister 1990). This area is situated at an elevation of ~75 m above sea level. It is composed mainly of muddy substrates. The swamp's vegetation of the middle Magdalena Basin is characterised by the Common Water Hyacinth *Eichhornia crassipes* (Mejia-Falla et al. 2013).

This Important Shark and Ray Area is benthic and is delineated from surface waters (0 m) to 4 m based on the bathymetry of the area.

ISRA CRITERIA

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Ciénaga de Paredes is an important reproductive area for one ray species.

Between August 2010 and September 2011, 91 Magdalena Freshwater Stingrays (male = 42, female = 49) were collected in collaboration with local fishers using cast nests and trammel (Pedreros-Sierra & Ramírez-Pinilla 2015; Pedreros-Sierra et al. 2016; Anaya-López & Ramírez-Pinilla 2017). Body sizes ranged between 6.3–27.5 cm disc width (DW) for males (mean = 51 ± 4.4 SD), and 8.0–41.5 cm DW for females (mean = 15.9 ± 6.5 SD) (Pedreros-Sierra & Ramírez-Pinilla 2015; Pedreros-Sierra et al. 2016). Size-at-birth for this species is of 8.7–10 cm DW (Teshima & Takeshita 1992; Ramos-Socha & Grijalba-Bendeck 2011). Males were classified as: immature (n = 10), maturing (n = 6), reproductively active (n = 17) found during all months of sampling, and adult resting (n = 6) (Pedreros-Sierra & Ramírez-Pinilla 2015). Between August 2010 and September 2011, 34 males were sampled: three were embryos (aborted from a pregnant female), nine were immature or neonates, three were maturing or juveniles, 12 were mature reproductively active, and seven were mature resting (Anaya-López & Ramírez-Pinilla 2017). Females were classified as immature (n = 25) and mature (n = 24) and included nine pregnant females (Pedreros-Sierra et al. 2016).

In 2015, one pregnant female, one embryo aborted from a pregnant female, and one neonate with an open umbilical scar were also recorded from surveys of artisanal fisheries operating in the area (Lizcano-Gutiérrez & Ramírez-Pinilla 2022). These findings indicate that this area serves as a reproductive area for pregnant females, neonates, and is likely also important for mating activities due to the occurrence of reproductively active males and pregnant females.

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QUALIFYING SPECIES

Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
RAYS												
Potamotrygon magdalenae	Magdalena Freshwater Stingray	NT	0–4			X						

IUCN Red List of Threatened Species Categories are available by searching species names at www.iucnredlist.org Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.

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