

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.

YAHUARCACA LAKES ISRA

South American Inland Waters Region

SUMMARY

Yahuarcaca Lakes is located in the Amazonas department in southern Colombia. It is a system of lakes interconnected via natural channels and is periodically flooded by whitewater from the Amazon River. The connection to the Amazon River occurs through a permanently open channel allowing two-way flow, and through floodings. Within this area there are: **threatened species** (Ocellate Freshwater Stingray *Potamotrygon motoro*); **range-restricted species** (Rough Freshwater Stingray *Potamotrygon constellata*); **reproductive areas** (e.g., Reticulate Freshwater Stingray *Potamotrygon orbignyi*); and the area sustains a **high diversity of rays** (3 species).

CRITERIA

Criterion A - Vulnerability; Criterion B - Range Restricted
Sub-criterion C1 - Reproductive Areas; Sub-criterion D2 - Diversity

COLOMBIA

0-8 metres

1.47 km²



DESCRIPTION OF HABITAT

Yahuaracaca Lakes is located in the Amazonas department in southern Colombia. It is situated 2 km west of Leticia city. The area is a system of *várzea* forest lakes interconnected via natural channels. *Várzea* lakes are periodically flooded by whitewater (sediment-rich and high-nutrient content) of the Amazon River (Palma-Silva et al 2023). These lakes feature a mosaic of sub-environments formed by the accumulation of river-transported sediments. The connection to the Amazon River occurs through two primary mechanisms, a permanently open channel allowing two-way flow and floodings from November–April, and seasonal overflow, where the river overtops the separating land barrier, flooding the lakes from April–May (Galvis et al. 2006). The system's hydrological regime is intrinsically linked to the Amazon River's flood pulses, which modulate the proportion of suspended and dissolved materials, alter the water's physicochemical properties, and influence morphometric features and species composition (Acosta-Santos 2020). The depth averages 7.46 m during high water and 1.12 m during low water (Torres-Bejarano et al. 2013).

This Important Shark and Ray Area is benthic and is delineated from surface waters (0 m) to 8 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

One Qualifying Species considered threatened with extinction according to the national Red List of Threatened Species of Colombia (MADS 2024) regularly occurs in the area. This is the Vulnerable Ocellate Freshwater Stingray.

CRITERION B – RANGE RESTRICTED

This area holds the regular presence of Rough Freshwater Stingray as a resident range-restricted species. Between December 2013–December 2014, individuals were recorded in monthly surveys of incidental catches in artisanal gillnet and handline fisheries operating in three locations across the whole portion (~100 km) of the Amazon River basin in Colombia (Acosta-Santos 2020). Of three Rough Freshwater Stingrays recorded in the study, two were recorded in this area and one recorded in Tarapoto Lakes (~70 km from Yahuaracaca Lakes). Additionally, the National Authority of Aquaculture and Fisheries (AUNAP) reported 161 individuals caught between 2013–2018 at the collection point of Leticia (Acosta-Santos 2020). These records confirm the regular presence of Rough Freshwater Stingray in the area as this collection point receives catches from Yahuaracaca Lakes and Tarapoto Lakes (Acosta-Santos 2020). Additionally, Rough Freshwater Stingrays are offered on websites selling ornamental fishes with the origin of the individuals reported from Leticia. This species is assessed as Data Deficient on the IUCN Red List of Threatened Species (Rosa et al. 2023) highlighting the regional importance of this area as it is one of only three locations where it regularly occurs in Colombia. This species is endemic to the Amazon basin, and in Colombia only occurs in the main Amazon River and the Caquetá and Putumayo basins.

SUB-CRITERION C1 – REPRODUCTIVE AREAS

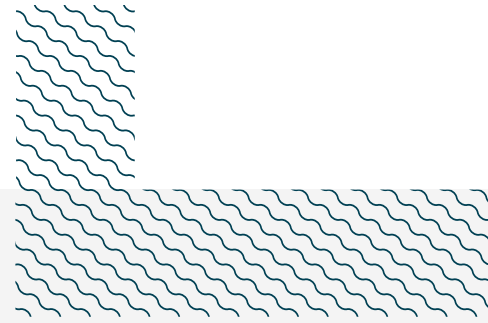
Yahuarcata Lakes is an important reproductive area for two ray species.

Of 34 Ocellate Freshwater Stingrays collected between 2013–2014 in this area, two (5.8%) specimens measured <15 cm disc width (DW) (Acosta-Santos 2020). The reported size-at-birth for the species is ~10 cm DW (Last et al. 2016) suggesting these individuals were neonate or young-of-the-year (YOY). Pregnant females (n = 2) were recorded in June and November while postpartum females (n = 2) were collected in December (Acosta-Santos 2020). Additionally, pregnant females were recorded as recently as October 2024 (A Acosta-Santos unpubl. data 2024). Yahuarcata Lakes and Corea Island (~30 km north) were the only locations in the Amazon River in Colombia where neonates and YOY were recorded. Interviews with traders and fishers in the area confirmed the regular catches of these life stages in Yahuarcata Lakes (Acosta-Santos 2020). According to fishers, YOY are commonly caught between August–September (A Acosta-Santos unpubl. data 2024). Historically, Ocellate Freshwater Stingrays were reported from artisanal catches in the area between 2004–2010 (Mojica et al. 2005; Prieto-Piraquive 2018)

Of 11 Reticulate Freshwater Stingrays collected between 2013–2014, a male measuring <15 cm DW and a pregnant female were recorded in October 2014 (Acosta-Santos 2020). The reported size-at-birth for the species is ~11 cm DW (Last et al. 2016) indicating that the recorded male individual was a neonate or YOY. These life stages, along with juveniles, take refuge in the flooded parts of the area (Acosta-Santos 2020). Interviews with traders and fishers in the area have confirmed the regular catches of these life stages in Yahuarcata Lakes (Acosta-Santos 2020). This area is the only location in Colombia where these life stages have been recorded. Adults are also present year-round (Acosta-Santos 2020).

SUB-CRITERION D2 – DIVERSITY

Yahuarcata Lakes sustains a high diversity of Qualifying Species (three species). This matches the regional diversity threshold (three species) for the South American Inland Waters region. The regular presence of Qualifying Species has been documented through monitoring of artisanal fisheries, local ecological knowledge, and from official fishing statistics between 2013–2018 (Acosta-Santos 2020).



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QUALIFYING SPECIES

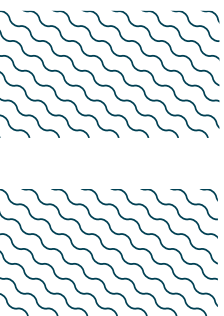
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
RAYS												
<i>Potamotrygon constellata</i>	Rough Freshwater Stingray	DD	0-8		X							X
<i>Potamotrygon motoro</i>	Ocellate Freshwater Stingray	VU*	0-60	X		X	X					
<i>Potamotrygon orbignyi</i>	Reticulate Freshwater Stingray	LC	0-8			X						

*Considered VU nationally but LC globally

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
RAYS		
<i>Potamotrygon scobina</i>	Whitespotted Freshwater Stingray	NT

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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