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ASSESSMENT OF POTENTIAL CANDIDATE FRESHWATER FISH SPECIES OF THE AMAZON BASIN FOR LISTING ON THE CONVENTION OF MIGRATORY SPECIES APPENDIX II

(Prepared by the Secretariat and the COP-appointed Councillor for Freshwater Fish)

Summary:

This document contains a case study assessment of potential candidate Freshwater Fish species of the Amazon Basin for Listing on the Convention of Migratory Species Appendix II in response to Decision 14.112 and 14.113.

Assessment of potential candidate Freshwater Fish species of the Amazon Basin for Listing on the Convention of Migratory Species Appendix II

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Introduction

Freshwater fish populations are facing unprecedented declines globally, with one-quarter of species threatened with extinction due to pollution, dams and water management, invasive species, habitat loss and conversion, overfishing, and climate change (Sayer et al. 2025). Migratory freshwater fish—particularly those dependent on free-flowing rivers—have declined 81% since 1970 (Deinet et al. 2024). In the Amazon Basin, one of the world's last remaining strongholds for freshwater biodiversity, migratory fish are vital to the social fabric, culture and traditions, ecosystem function and the economy. In a recent review, Duponchelle et al. (2021) estimated that migratory freshwater fish account for 93% of fisheries landings, on average, and generate approximately US$436 million annually across the Amazon Basin.

The Convention on Migratory Species (CMS) provides a key mechanism to strengthen conservation and management of these species. By recognizing their transboundary movements, CMS can support coordinated action among Amazonian countries to safeguard migratory corridors and strengthen monitoring. The listing of *Brachyplatystoma rousseauxii* and *B. vaillantii* (CMS, 2024a, b) at the previous CMS COP marked a pivotal step toward integrating freshwater fish into global migratory species frameworks.

This assessment aims to identify additional Amazonian freshwater fish that meet the criteria for listing on the CMS Appendices, focusing on species of unfavorable conservation status that make transboundary migrations and would benefit from international cooperation for their management. Despite their ecological, cultural, and economic importance, many of these species face threats from overfishing, dams, pollution, deforestation, and climate change.

Methods

We first compiled all known Amazonian migratory fish from four recent reviews (Caldas et al. 2023, Duponchelle et al. 2021, Herrera-R et al. 2024, and Stoffers et al. in prep). We used the following definition of migratory, following the Convention on Migratory Species: "a wild animal population whose members cyclically and predictably cross one or more national jurisdictional boundaries". In the case of freshwater fish, transboundary migrations may involve long-distance longitudinal movements along main river channels and major tributaries, or lateral movements from the main channel into floodplains and lakes within flooded forests. We then checked the compiled list for taxonomic consistency, removing synonyms and any species names that are no longer valid as well as those with distributions that are outside of the Amazon Basin (e.g., found only in Tocantins). Subsequently, we compared the migratory fish list with National Red Lists

from Bolivia (Ministerio de Medio Ambiente y Agua 2009), Colombia (Mojica et al. 2012), Peru (Meza-Vargas 2025), Ecuador (Aguirre et al. 2019), Brazil (ICMBio 2018), and IUCN Red List of Threatened Species (Near Threatened (NT), Vulnerable (VU), Endangered (EN), Critically Endangered (CR); Data Deficient (DD), or Decreasing Population Trend; IUCN 2025, version 2025-1) to determine which were considered Threatened, with a Decreasing Population, or Data Deficient. We also reviewed recent papers documenting freshwater fish species declines and adding 10 species based on documentation of population declines in de Souza et al. (2025).

Results

Thirty-three migratory freshwater fish species were found to be candidates for listing on Appendix II of the Convention on Migratory Species. These migratory fish species represent three Orders (Characiformes, Siluriformes and Osteoglossiformes), six families (Bryconidae, Anostomidae, Prochilodontidae, Serrasalmidae, Arapaimidae, Auchenipteridae, and Pimelodidae) and twenty genera (Table 1, 2). Two species were considered Threatened on the IUCN Red List, 18 on country Red Lists, four were IUCN Data Deficient and four were classified as Declining Current Population Trend by IUCN. Below we present more information on the species and the supporting documentation for their consideration as candidates.

ORDER CHARACIFORMES

- ***Brycon* characins** (***Brycon amazonicus, B. falcatus*** and ***B. melanopterus***; Family: Bryconidae; Common names: matrinchã, jatuarana, sabalo). This group needs special attention to ensure their protection given that they need specific environments for reproduction. *Brycon gouldingi* is Endangered on the IUCN Red List (ICMBio 2021) with decreasing population trend as well as on the Brazilian Red List; however, it is only found within Brazil and thus is not a candidate for CMS listing. There is a lot of taxonomic uncertainty, with the absence of monophyly for many species, including those considered here (Lima 2017; Arruda et al. 2019), which makes population status complicated to evaluate. de Souza et al. (2025) lump the three species in their assessment of catch data from the Madeira, which shows a downward trend since closing of the Jirau and Santo Antonio dams.
    - ***Brycon amazonicus (Agassiz 1829)***. *Brycon amazonicus* makes transboundary medium to long-distance movements between large river floodplains and upland rainforest streams (Goulding et al. 2018). It has an estimated migration distance of 100-1500 km and is known to be able to pass the rapids of the Upper Madeira, Lower Beni and Lower Mamoré (Duponchelle et al. 2021, van Damme et al. 2011). Goulding et al. (2019) recommend this species as a flagship species for fisheries management in the Amazon and state that *B. amazonicus* is now either overfished or highly vulnerable to

growth overfishing, which is a fishing level that exceeds the maximum yield per recruit.

- ***Brycon falcatus (Müller & Troschel 1844).*** Numerous sources document medium to long distance migrations of *B. falcatus* with most estimates over 500 km (Doria et al. 2018, Ribeiro et al 1995; Nunes et al. 2019, Zapata and Usma 2013).
- ***Brycon melanopterus (Cope 1872).*** It has an estimated migration distance of 100-1500 km and is known to be able to pass the rapids of the Upper Madeira, Lower Beni and Lower Mamoré (van Damme et al. 2011, Doria et al. 2018).

- **Several species of Anostomidae** (Headstanders): ***Leporinus agassizii, L. bimaculatus, L. bleheri, L. fasciatus, L. friderici, L. y-ophorus*** and ***Schizodon fasciatus*** all warrant further investigation. They are short to medium distance migratory species, widely distributed across the Amazon, and important to fisheries in several parts of the region (Herrera-R et al. 2024, Barthem and Goulding 2007, Siqueira-Souza et al. 2021). Availability of information on migration distance varies by species with estimates ranging from less than 100 km for *L. agassizii* (Zapata and Usma 2003) to a range of 100-1,000 km for *L. fasciatus* (Barthem and Gouding 2007). All species inhabit multiple countries with several known to cross borders during migration and others suspected to do so. There has been documentation of *Leporinus* spp. and *S. fasciatus* population declines particularly in the Madeira Basin (de Souza et al. 2025). Detailed information on this group of species is difficult to obtain, as fisheries data often aggregate multiple species of them rather than reporting them individually. There is also taxonomic uncertainty, with absence of monophyly and possible species complexes (Ramirez et al. 2017a, b; Silva-Santos et al. 2018), which makes population status complicated to evaluate. Further evaluation of this group is recommended.
- **Prochilodontidae species** (Flannel-mouthed Characins). Two species of Prochilodontidae (***Prochilodus nigricans (Spix & Agassiz 1829)*** and ***Semaprochilodus insignis (Jardine 1841)***), which share similar characteristics are candidate species. Juveniles of *Prochilodus nigricans* are estimated to travel a minimum of 500 km upstream from floodplains towards western Amazonia, making transboundary migrations at least between Brazil and Peru (Silva & Stewart, 2017). Similarly, *Semaprochilodus* spp. travel up to 250 km upstream and downstream between nutrient-poor water where they feed and white-water river channels where they reproduce in central Amazonia (Ribeiro & Petrere, 1990). Both species are heavily fished and their population dynamics are tied to the flood pulse (Ribeiro & Petrere Jr. 1990; Camacho Guerreiro et al. 2021; Anderson et al. 2009; Catarino et al. 2014; Bonilla-Castillo et al. 2018) and both are recommended as flagship species for fisheries management in the Amazon by Goulding et al. (2019). Population genetics reveals signs of genetic erosion due to overexploitation of *Semaprochilodus insignis* (Nunes et al. 2023). There are studies indicating heavy exploitation throughout the

Amazon basin, where the species is the number one exploited species (Cañas 2000; Anderson et al. 2009; Catarino et al. 2014; Bonilla-Castillo et al. 2018), and others where the species is not heavily exploited such as in Ecuador (Silva & Stewart 2006). Based on length and weight data in the central Amazon, *Prochilodus nigricans* is heavily fished (Catarino et al. 2014; Goulding et al, 2018). The species dynamics, however, may be affected more by the intensity of the flood pulse than the exploitation rate (Mota & Ruffino 1997; Bayley et al. 2018). Machado et al. (2017) have shown that even before the Madeira dams, the population from the upper Madeira (above the rapids) had genetically diverged from the population of the Amazon mainstem. It is important to note that *Prochilodus nigricans* may in fact represent a more diverse group of species that has yet to be fully assessed (Melo et al. 2018)

- **Pacus & Pirapitingas** (Family: Serrasalmidae)
    - ***Colossoma macropomum (Cuvier 1816)*** (Common names: Tambaqui, Cachama, Paco, Pacu, Gamitana). *Colossoma macropomum* is the second largest scaled fish in South America, growing to 100 cm and weighing over 30 kg (Campos et al. 2015). makes basin-scale, potamodromous migrations typically 100–1,000 km, with reports up to 1,500 km; >500 km is documented in the Tapajós toward the São Luiz rapids, and genetic and demographic evidence shows connectivity over >3,600 km along the Amazon mainstem and >1,700 km across the Madeira rapids, indicating sustained large-scale movement (Barthem & Goulding 2007; Van Damme et al. 2011; Barthem et al. 2016; Farias et al. 2010). Movements follow the flood pulse: adults leave floodplains during falling water, migrate upriver to spawn in whitewater channels as waters rise, then disperse into flooded forests to feed (Cox-Fernandes 1997; Tello et al. 1992; Vieira et al. 1999; Goulding et al. 2018). Transboundary migrations occur or are likely from Peru into Brazil via the Ucayali and Marañón into the Solimões–Amazon, between Colombia and Brazil along the Caquetá/Japurá, from Ecuador into Peru along the Napo, between Bolivia and Brazil via the Guaporé/Itenez and upper Madeira, and within the Orinoco basin across Venezuela and Colombia; the native range spans Brazil, Peru, Colombia, Bolivia, Ecuador, and Venezuela (Santos et al. 2018; Zapata & Usma 2013; Loubens & Panfili 1997; García-Dávila et al. 2018). Declining populations or catches have been documented in Brazil (Petrere 1983; Isaac & Ruffino 1996; Araujo Lima & Goulding, 1997; da Costa et al. 2001; Garcez & Freitas 2011; Campos et al. 2015), Peru (Cañas, C. 2000; Garcia-Vasquez et al. 2009) and Amazon-wide (Prestes et al. 2022). Given cross border movements and an IUCN assessment of Near Threatened (Brejão 2024), the species meets the criteria for listing on Appendix II of CMS.
    - ***Mylossoma albiscopum (Cope 1872).*** (Common names: pacu, palometa). This species is considered a medium distance (100-500km) migrant and has documented migrations in the Juruá, Madeira, Napo, Putumayo and mainstem

of the Amazon (Herrera-R et al. 2024, Zapata & Usma 2013). It is also listed as NT on the Ecuadorian Red List.

- ***Piaractus brachypomus (Cuvier 1818)***: (Common names: Pirapitinga, Paco). *Piaractus brachypomus* is a large-bodied medium distance migrant with estimated migration distance of 100-1500 km (Duponchelle et al. 2021, van Damme et al. 2011, Zapata and Usma 2013). This species is also known to be able to pass the rapids of the Upper Madeira, Lower Beni and Lower Mamoré in Bolivia (van Damme et al. 2011). During the reproductive period, they form large schools and migrate upstream. The pirapitinga makes two annual migrations, one at the beginning of the low floodwaters when it leaves the flooded areas and heads for the headwaters of the rivers, and the second at the beginning of the flood when it migrates to white waters to spawn (García-Dávila et al. 2018). There are reports of population declines in Colombia (Ramírez-Gil & Ajiaco-Martínez 2001; Lasso et al. 2011; Escobar et al. 2019) and in the Madeira (Goulding 1979, de Souza et al. 2025) with no signs of stock recovery (Escobar et al. 2015). A decline in mean catches has also been seen in Peru (Garcia Vasquez et al. 2009).

ORDER OSTEOGLOSSIFORMES

- **Arapaima: *Arapaima gigas (Schinz 1822)*** (Common names: Arapaima, Paiche, Pirarucu; Family: Arapaimidae). *Arapaima gigas* is the largest truly freshwater fish with scales in South America, the largest individuals reach over 4 meters in length. It is a lateral migrant with movements from the river into the floodplains during high waters and return to the river at lower water levels (Castello 2008). The species is listed on CITES, Appendix II, due to concerns of overfishing and thus regulated under international trade (Castello and Stewart 2010). It is listed as Vulnerable on both the Colombian and Ecuadorian Red Lists and Data Deficient by IUCN (WCMC 1996) and there is evidence of decreasing catches in the Peruvian Amazon (Garcia Vasquez et al. 2019). However, further work is needed to confirm whether the species crosses international borders in its lateral migrations and thus would benefit from international cooperation. The IUCN assessment for this species is also quite old, further confirming the need for re-assessment. The taxonomy of the species is also uncertain, making it difficult to know whether this is one or a complex of multiple cryptic species (Stewart 2013a; Stewart 2013b).

ORDER SILURIFORMES

- ***Auchenipterus nuchalis (Spix & Agassiz 1829)*** (Common name: Leguía, Mandi Peruano; Family: Auchenipteridae (Driftwood catfish)). The species is listed as Least Concern on IUCN Red List but with a Decreasing global population trend (Reis et al. 2023). However, while the global population trend is considered decreasing, detailed information is not available. It has a wide distribution and is documented as a migratory species (Garcia-Davila et al. 2018) but with relatively short movements. They may occasionally cross borders, but it is unclear whether they require international cooperation for recovery. Due to lack of information on the population and migration across borders, we recommend additional study of this species.
- **Goliath Catfishes (*Brachyplatystoma filamentosum*, *B. capapretum; B. juruense; B. platynema; B. tigrinum*).** The large-bodied goliath catfishes of the genus *Brachyplatystoma* make long to medium distance migrations across the major rivers of the Amazon Basin (Barthem & Goulding, 1997; Barthem et al., 2017, Duponchelle et al. 2021). The longest known migration of a freshwater fish globally is made by a member of this genus, *B. rousseauxii*, which was listed by CMS on Appendix II in 2024, along with *B. vaillantii*. This group of species is particularly important to the fisheries of the region – both for commercial and subsistence consumption. There are several potential candidates from the goliath catfishes and the Action Plan for the two CMS-listed *Brachyplatystoma* species, which is currently under development, could potentially be expanded to cover these additional species since their life history is similar.:
    - ***Brachyplatystoma capapretum (Lundberg & Akama 2005)*** (Common name: Filhote, Goliath catfish, Piraíba). This species makes medium distance transboundary migrations of 100-1,000 km (Barthem and Goulding 2007). Sexually mature individuals have been found over a wide area of the Amazon Basin; follows schools of upriver migratory species along the Amazon Basin (Barthem and Goulding 2007). Larvae and juveniles have been documented in the headwaters of the Madeira River in Bolivia and Peru (Cella-Ribeiro et al. 2015); adult fish have been documented migrating upstream about 400 km upstream of the Xingu and Amazon rivers (Pérez 2015); and spawning grounds have been documented in the Beni, Mamoré, and Madre de Dios rivers (Vasconcelos 2017). It has an IUCN NT and declining population trend (Salvador 2023a). While more study is needed on its migratory behavior as it has often been confused with *B. filamentosum* (Garcia-Dávila et al. 2018), it is a known migrant and could benefit from transboundary cooperation.
    - ***Brachyplatystoma filamentosum (Lichtenstein 1819)*** (Common name: Lechero, Filhote, Piraíba). This goliath catfish is listed as VU on the Ecuadorian and Colombia Red Lists and has a decreasing population trend status under IUCN (Salvador 2023b), and there is documentation of declines of this species in de Souza et al. (2025); de Queiroz et al. (2019); and Cruz et al. (2020). Petrere et

al. (2004) also identify that the species is potentially overexploited. It is one of the largest goliath catfishes, reaching more than 2.5 m in length and over 150 kg in weight (Barthem et al. 2017; Boujard et al. 1997). *B. filamentosum* undertakes transboundary migrations: 100–1300+ km (basin-wide (Barthem & Goulding 2007). Migrations are documented in Brazil (Araguaia, Tocantins, Xingu, Tapajós, lower Amazon, Negro, Madeira including Teotônio/Porto Velho), Peru (Ucayali–Marañón–Napo, high-water abundance), Bolivia (Beni–Mamoré–Madre de Dios, Madeira headwaters), Colombia (Caquetá/Japurá), and Ecuador via the upper Napo (Goulding 1979; García-Dávila et al. 2015).

- ***Brachyplatystoma juruense (Boulenger 1898)*** (Common name: Dourada-zebra, Zebra). Numerous sources document long distance continental scale and transboundary migrations of this species (Arboleda 1989; Barthem et al. 2017; Cañas and Pine 2011; Duponchelle et al. 2016; García-Dávila et al. 2018; Goulding et al. 2018; Hermann et al. 2016; Hauser 2018; Hauser et al. 2019; Isaac et al. 2015; Miranda-Chumacero et al. 2020; Van Damme et al. 2019; Vasconcelos 2017; Zapata and Usma 2013). The nurseries are located near the Andes in the eastern or central Amazon and spawning occurs in the western Amazon in river channels (Goulding et al. 2018). Barthem et al. (2017) demonstrated conclusively that long-distance downstream migration of their larvae and juveniles occurs. Migration distances are over 1,000 km with the greatest distance measured between spawning and nursery areas being over 4,000 km. Its nursery appears to be in the central Amazon as neither adult nor larval *B. juruense* are known in the estuary (Barthem et al. 2017). The species has been listed as VU on the Colombian and Ecuadorian Red Lists, qualifying it as a candidate for listing by CMS.
- ***Brachyplatystoma platynema*** **(Boulenger 1898)** (Common names: Dourada, Babão, Mota Flemosa) undertakes trans-boundary movements from the eastern or central Amazon where nurseries are located to the western Amazon where spawning occurs in river channels (Barthem et al., 2017; Cañas & Pine, 2011; Goulding et al. 2003; Hegg et al., 2015; Hermann et al., 2016; Hauser et al, 2019). Goulding et al. (2018) estuary that continental scale migrations cover at least 90% of the length of the basin stretching from the Andes to the Amazon River estuary and plume. Hauser et al. (2019), using an assessment of otolith chemical properties over time, documented that individuals in the Madeira Basin migrate several thousand kilometers within the Amazon basin, with transboundary displacements between at least Bolivia, Brazil, and Peru. Given its known migration and spawning upstream, it is expected to be vulnerable to the Jirau and Santo Antônio dams on the Madeira River. The species is listed as VU on the Columbia and Ecuadorian Red Lists and is a candidate for listing.
- ***Brachyplatystoma tigrinum*** **(Britski 1981)** (Common names: Dourada zebra, Zebra shovelnose) is a long-distance transboundary migratory species

(>1,000km; Barthem et al. 2017) with numerous sources documenting migratory movements (e.g., Cipamocha 2002; Goulding 1979; Reynel Dávila 2018; Zapata and Usma 2013). It is also listed as VU on the Ecuadorian Red Lists (Barthem et al. 2003; Hauser et al. 2019) and is a candidate for listing.

- **Other Pimelodid Catfishes**: There are several additional pimelodid catfishes that are documented as migratory species and have some indications that their populations are in decline or under threat such that they warrant further investigation. These are:
    - ***Calophysus macropterus (Lichtenstein 1819)*** (Common name: Piracatinga, Zamurito, Mota): Documented as a migratory species (Bonilla-Castillo et al. 2022; Herrera-R et al. 2024; Diaz-Sarmiento & Alvarez-León 2003; Duponchelle et al. 2021), the species has also been listed on the Ecuadorian Red List as Vulnerable. It is considered potentially overexploited (Bonilla-Castillo et al. 2022) but further documentation is needed.
    - ***Leiarius longibarbis (Castelnau 1855)***. IUCN Data Deficient (Perez 2023), signaling that more information is needed to better evaluate its status.
    - ***Leiarius marmoratus (Gill 1870)***. It is considered a short distance migrant of less than 100 km (Zapata and Usma 2013). It is Vulnerable on the Ecuadorian Red List and has been located in the headwaters of the Madre de Dios River several times (Goulding et al. 2003), such that greater investigation is warranted.
    - ***Phractocephalus hemioliopterus (Bloch & Schneider 1801)*** (Common name: Pirarara, Red tailed catfish, Peje Torre). It undertakes medium-length migrations (between 100 and 1000 km) related to the reproductive period and occurs in transboundary rivers (Freitas and Montag 2019). It is Vulnerable on the Ecuadorian Red List, is a target of the aquarium trade, and has shown declines in the Madeira Basin (de Souza et al. 2025) and thus considered a candidate for listing.
    - ***Pinirampus pirinampu (Spix & Agassiz 1829)*** (Common name: Barbado, Piranambú, Flatwhiskered catfish). They undertake long-distance migrations (500 to 3,000 km) that are associated with reproduction (Garcia Davila et al. 2018). The species is listed as EN on the Ecuadorian Red List and there is evidence of overfishing (Perreira et al. 2023).
    - ***Platynematichthys notatus (Jardine 1841)*** (Common name: Coroatá, mota redonda). They undertake long-distance transboundary migrations (500 to 3,000 km) (Garcia Davila et al. 2018, Zapata and Usma 2013) and are Near Threatened on the Ecuadorian Red List. Further assessment of their conservation status is recommended.
    - ***Pseudoplatystoma punctifer (Castelnau 1855)*** (Common name: Surubim, Spotted Tiger Shovelnose Catfish, Doncella): It is considered a medium distance migrant with estimates of between 100-1500 km (van Damme 2011; Diaz-Sarmiento & Alvarez-León 2003; Barthem & Goulding (2007). Telles et al.

(2014) provide genetic evidence that migrations are likely less than 200 km. There are signs of overexploitation throughout their range in the Amazon: Peru (Armas et al. 2022), Colombia (Camacho-Garcia 2006), Bolivia (Monteiro de Souza et al. 2025). There has been population structuring in the Madeira above and below the former rapids (Goulding et al, 2003; Telles et al. 2014; Cunha-Machado et al. 2021).

- ***Pseudoplatystoma tigrinum (Valenciennes 1840)*** (Common name: Caparará, Puma Zúngaro)**:** It undertakes two well-defined annual migrations: one for feeding purposes, which takes place during the low water period, and the second for reproductive purposes during the rising water period (Garcia Davila et al. 2018). Migrations of upwards of 500 km have been estimated and has been documented to make transboundary movements (Barthem and Goulding 2007, Diaz-Sarmiento & Alvarez-León 2003, Zapata and Usma 2013). Both *P. fasciatum* and *P. tigrinum* migrate upstream across the rapids in the Madeira River (Duponchelle et al. 2021). Evidence of regional overfishing has been documented for this species (Isaac et al. 1998; Ruffino & Isaac, 1999). It is listed as VU on both the Colombian and Ecuadorian Red Lists.
- ***Sorubim lima (Bloch & Schneider 1801)*** (Common name: Jurupensem, Pico de pato, Shiripira): This species is widely distributed throughout most of Amazonian tributaries and the main channel (Littman 2007). Estimates of migration distance vary with a range of 100-1500 km (van Damme 2011, Doria et al. 2018, Garcia Davila et al. 2018, Rojas et al. 2007). It is considered NT on the Colombian and Ecuadorian Red Lists.
- ***Sorubimichthys planiceps (Spix & Agassiz 1829)*** (Common name: Peixe-lenha, Surubim, Achacubo): It migrates longitudinally, but it is not known whether it forms schools or whether the migration is related to reproduction (Goulding et al. 2003: Garcia Davila et al. 2018). It is considered a medium distance migrant (100-500 km), is known to make transboundary migrations (Zapata and Usma 2013), and NT on the Colombian Red List.
- ***Zungaro zungaro (Humboldt 1821)*** (Common name: Jaú, Zúngaro): It is found in almost the entire Amazon basin and inhabits the deepest areas in the main channel of white, black and clearwater rivers on muddy or rocky bottoms and juveniles are found in the aquatic vegetation. Migrations are associated with feeding and spawning (in the high-water season) (Garcia Davila et al. 2018). It is a trans-boundary migrant with migration distances estimated to be between 100-1500 km (Barthem and Goulding 2007; Miranda-Chumacero et al. 2020, van Damme 2011, Zapata and Usma 2013). It is listed as VU in both the Colombian and Ecuadorian Red Lists.

Table 1. List of candidate species, including threatened status, maximum migration distance, and sources of information on migratory and threatened status

Order	Family	Genus and Species	Threatened status & Source	Migration information & Source(s)
Characiformes	Anostomidae	*Leporinus agassizii* (Steindachner 1876)	Leporinus spp. Unfavorable status in de Souza et al. (2025). Detailed information on this group of species is difficult to obtain, as fisheries data often aggregate them rather than reporting them individually.	Goulding (pers comm.); Zapata & Usma (2013); García-Dávila et al. (2018); Duponchelle (2021) Max migration distance: <100km (Zapata & Usma 2013)
Characiformes	Anostomidae	*Leporinus bimaculatus* (Castelnau 1855)	Leporinus spp. Unfavorable status in de Souza et al. (2025).; IUCN Red List DD (Sidlauskas 2022)	Arantes et al. 2019; Herrera-R et al.(2024)
Characiformes	Anostomidae	*Leporinus bleheri* (Géry 1999)	Leporinus spp. Unfavorable status in de Souza et al. (2025).; IUCN Red List DD (Frederico 2022)	Géry 1999; Boaretto et al. 2024
Characiformes	Anostomidae	*Leporinus fasciatus* (Bloch 1794)	Leporinus spp. Unfavorable status in de Souza et al. (2025).	Goulding (1980); Ribeiro (1983); Ribeiro et al. (1995); Oliveira & Ferreira (2002); Barthem & Goulding (2007); Van Damme et al. (2011); Zapata & Usma (2013); Zacardi et al. (2014); García-Dávila et al. (2018); Cajado et al. (2020); Duponchelle (2021) Max migration distance 100-1,000 km (Barthem and Goulding 2007)
Characiformes	Anostomidae	*Leporinus friderici* (Bloch 1794)	Leporinus spp. Unfavorable status in de Souza et al. (2025).	Ribeiro et al. (1995); Cipamocha (2002); Barthem & Goulding (2007); Van Damme et al. (2011); Val & Almeida et al. (2012); Zapata & Usma (2013); García-Dávila et al. (2018); Duponchelle (2021) Max migration distance: 100-1,500 km (Van Damme et al. 2011)
Characiformes	Anostomidae	*Leporinus y-ophorus* (Eigenmann 1922)	Leporinus spp. Unfavorable status in de Souza et al. (2025).	Osorio et al. 2011; Herrera-R et al. (2024)
Characiformes	Anostomidae	*Schizodon fasciatus* (Spix & Agassiz 1829)	unfavorable status in de Souza et al. (2025)	Zapata & Usma (2013); García-Dávila et al. (2018)

Order	Family	Genus and Species	Threatened status & Source	Migration information & Source(s)
Characiformes	Bryconidae	*Brycon amazonicus* (Spix & Agassiz 1829)	unfavorable status in de Souza et al. (2025); evidence of overfishing (Goulding et al. 2018)	Goulding (1979); Borges (1986); Bayley (1988); Petry et al. (2003); Cipamocha (2002); Barthem & Goulding (2007); Santos Filho & Batista (2009); Van Damme et al. (2011); Zapata & Usma (2013); Braga & Rebêlo (2014); Cajado et al. (2018); García-Dávila et al. (2018); Goulding et al. (2018); Cajado et al. (2020) Max migration distance: 100-1,500 km (Van Damme et al. 2011)
Characiformes	Bryconidae	*Brycon falcatus* (Müller & Troschel 1844)	unfavorable status in de Souza et al. (2025)	Herrera-R et al. (2024); Duponchelle (2021); Zapata & Usma (2013); Agostinho et al. 2007a Max migration distance: 800–1,100 km (Ribeiro et al. 1995)
Characiformes	Bryconidae	*Brycon melanopterus* (Cope 1872)	Unfavorable status in de Souza et al. (2025);	Goulding (1979); Borges (1986); Bayley (1988); Petry et al. (2003); Goulding et al. 2003; Barthem & Goulding (2007); Santos Filho & Batista (2009); Van Damme et al. (2011); Zapata & Usma (2013); Cajado et al. (2018); García-Dávila et al. (2018); Goulding et al. (2018); Guerreiro (2019); Cajado et al. (2020); Duponchelle (2021) Max migration distance: 100-1,500 km (Van Damme et al. 2011)

Order	Family	Genus and Species	Threatened status & Source	Migration information & Source(s)
Characiformes	Prochilodontidae	*Prochilodus nigricans* (Spix & Agassiz 1829)	VU in Ecuador Red list (Aguirre et al. 2019); VU in Colombia red list (Mojica et al. 2012); Decline of catches potentially because overfishing reported (Heilpern et al. 2021). Overfishing evidence in Catarino et al. 2014). Potentially overfished in Putumayo River basin (Bonilla et al. 2018); There are studies indicating heavy exploitation throughout the Amazon basin, where the species is the #1 exploited species (Anderson et al. 2009; Catarino et al. 2014; Bonilla-Castillo et al. 2018), and others where the species is not heavily exploited such as in Ecuador (Silva & Stewart 2006). However, so far, the species dynamics appear more affected by the intensity of the flood pulse than the exploitation rate (Mota & Ruffino 1997; Bayley et al. 2018). Machado et al. (2017) have shown that even before the Madeira dams, the population from the Upper Madeira (above the rapids) had genetically diverged from the population of the Amazon mainstem. Thus, the decreasing catches after the dams might be a result of flow modification or temporal flood differences, rather than a real and permanent impact of the dams on the population, which seems resilient so far (and the exploitation rate is low in Bolivia).	Goulding (1979); Ribeiro et al. (1995); Cox-Fernandes (1997); Salinas & Agudelo (2000); Oliveira & Ferreira (2002); Barthem & Goulding (2007); Ortega-Lara et al. (2009); Mounic-Silva & Leite (2013); Van Damme et al. (2011); Zapata & Usma (2013); Isaac et al. (2015); Hermann et al. (2016); Soares (2016); Machado et al. (2017); Silva & Stewart (2017); Zacardi et al. (2017); Bonilla-Castillo et al. (2018); García-Dávila et al. (2018); Goulding et al. (2018); Lopes (2018); Borie et al. (2019); Cajado et al. (2020); Miranda-Chumacero et al. (2020) Max migration distance: 100-1,500 km (Van Damme et al. 2011)
Characiformes	Prochilodontidae	*Semaprochilodus insignis* (Jardine & Schomburgk 1841)	Unfavorable status in de Souza et al. (2025); Batista et al. 2012; heavily fished and population dynamics linked to flood conditions (Ribeiro & Petrere Jr. 1990; Camacho Guerreiro et al. 2021). Population genetics reveals signs of genetic erosion due to overexploitation (Nunes et al. 2023)	Ribeiro & Petrere (1990); Cox-Fernandes (1997); Oliveira & Ferreira (2002); Barthem & Goulding (2007); Batista & Lima (2010); Van Damme et al. (2011); Zapata & Usma (2013); Zacardi et al. (2014); Barthem et al. (2016); García-Dávila et al. (2018); Goulding et al. (2018); Borie et al. (2019); Nunes et al. (2019); Cajado et al. (2020) Max migration distance: 100-1,500 km (Van Damme et al. 2011)

Order	Family	Genus and Species	Threatened status & Source	Migration information & Source(s)
Characiformes	Serrasalmidae	*Colossoma macropomum* (Cuvier 1816)	IUCN Red List NT and population trend decreasing (Brejão 2024), Bolivia Red List (VU), Colombia Red List (NT); Prestes et al. (2022); Declining populations or catches in Brasil (Petrere 1983; Isaac & Ruffino 1996; Araujo-Lima & Goulding, 1997; da Costa et al. 2001; Garcez & Freitas 2011; Campos et al. 2015 for a synthesis, Colombia and Peru (Garcia-Vasquez et al. 2009)	Fernández (1991), Tello et al. (1992), Cox-Fernandes (1997), Loubens & Panfili (1997), Vieria et al. (1999), Barthem & Goulding (2007), Santos et al. (2007), Fazzi-Gomes et al. (2017), Farias et al. (2010), Van Damme et al. (2011), Aldea-Guevara et al. (2013), Zapata & Usma (2013), Barthem et al. (2016), García-Dávila et al. (2018), Goulding et al. (2018), Santos et al. (2018)
Characiformes	Serrasalmidae	*Mylossoma albiscopum* (Cope 1872)	NT in Ecuador Red list (Aguirre et al. 2019)	Herrera-R et al. (2024)
Characiformes	Serrasalmidae	*Piaractus brachypomus* (Cuvier 1818)	Unfavorable status in de Souza et al. (2025); Reports of population declines in Colombia (Ramírez-Gil & Ajiaco-Martínez 2001; Lasso et al. 2011) and in the Madeira (Goulding 1979); no signs of stock recovery (Escobar et al. 2015); decline in mean catches in Peru (Garcia Vasquez 2009).	Fernández (1991); Tello et al. (1992); Cox-Fernandes (1997); Loubens & Panfili (1997); Vieria et al. (1999); Barthem & Goulding (2007); Santos et al. (2007); Fazzi-Gomes et al. (2017); Farias et al. (2010); Van Damme et al. (2011); Aldea-Guevara et al. (2013); Zapata & Usma (2013); Barthem et al. (2016); García-Dávila et al. (2018); Goulding et al. (2018); Santos et al. (2018) Max migration distance: 100-1,500 km (Van Damme et al. 2011)
Osteoglossiformes	Arapaimidae	*Arapaima gigas* (Schinz 1822)	Threatened due to overharvesting (Stone 2007) & VU in Colombia Red List. IUCN Data Deficient (WCMC 1996); VU in Ecuador Red list (Aguirre et al. 2019)	Barthem & Goulding (2007); Cella-Ribeiro et al. (2015) ;Pérez (2015); Vasconcelos (2017); García-Dávila et al. (2018); Caldas et al. 2023
Siluriformes	Auchenipteridae	*Auchenipterus nuchalis* (Spix & Agassiz 1829)	IUCN population trend decreasing (Reis et al. 2023)	García-Dávila et al. (2018); Herrera-R et al. 2024; Duponchelle et al. 2021

Order	Family	Genus and Species	Threatened status & Source	Migration information & Source(s)
Siluriformes	Pimelodidae	*Brachyplatystoma capapretum* (Lundberg & Akama 2005)	IUCN: NT and population trend decreasing (Salvador 2023a)	Barthem & Goulding (2007); Cella-Ribeiro et al. (2015); Pérez (2015); Vasconcelos (2017); García-Dávila et al. (2018); Duponchelle et al. (2021);Herrera-R et al. 2024; Max migration distance: 100-1,000km Barthem & Goulding (2007)
Siluriformes	Pimelodidae	*Brachyplatystoma filamentosum* (Lichtenstein 1819)	VU on Colombia Red List, IUCN population trend decreasing (Salvador 2023b); Documentation of unfavorable status in de Souza et al. (2025);de Queiroz et al. (2018); Cruz et al. (2020); VU in Ecuador Red list (Aguirre et al. 2019); Population potentially overexploited (Petrere et al. 2004)	Goulding (1979); Ribeiro et al. (1995); Agudelo-Córdoba et al. (2000); Petrere et al. (2004); Barthem & Goulding (2007); Huergo (2009); Mérona et al. (2010); Val & Almeida et al. (2012); Zapata & Usma (2013); Hegg et al. (2015); Cella-Ribeiro et al. (2015); García-Dávila et al. (2015); Isaac et al. (2015); Hermann et al. (2016); Vasconcelos (2017); García-Dávila et al. (2018); Nunes et al. (2019); Cajado et al. (2020); Anderson et al. (2025) Max migration distance: 100-1,000km Barthem & Goulding (2007)
Siluriformes	Pimelodidae	*Brachyplatystoma juruense* (Boulenger 1898)	VU on Colombia Red List; VU in Ecuador Red list (Aguirre et al. 2019)	Arboleda (1989); Barthem & Goulding (2007); Cañas and Pine (2011); Zapata & Usma (2013); Cella-Ribeiro et al. (2015); García-Dávila et al. (2015); Ochoa et al. (2015); Barthem et al. (2017); Vasconcelos (2017); García-Dávila et al. (2018); Goulding et al. (2018); Hahn et al. (2019); Hauser et al. (2019); Herrera-R et al. (2024) Max distance from spawning and rearing areas: 4,238 km Barthem et al. (2017)
Siluriformes	Pimelodidae	*Brachyplatystoma platynema (*Boulenger 1898)	VU on Colombia Red List ; EN in Ecuador Red list (Aguirre et al. 2019)	Herrera-R et al. (2024); Zapata & Usma (2013); García-Dávila et al. (2018); Hauser et al. (2019); Anderson et al. (2025)

Order	Family	Genus and Species	Threatened status & Source	Migration information & Source(s)
Siluriformes	Pimelodidae	*Brachyplatystoma tigrinum* (Britski 1981)	VU in Ecuador Red list (Aguirre et al. 2019)	Goulding (1979); Agudelo-Córdoba et al. (2000); Cipamocha (2002); Diaz-Sarmiento & Alvarez-León (2003); Barthem & Goulding (2007); Rojas et al. (2007); Van Damme et al. (2011); Zapata & Usma (2013); García-Dávila et al. (2018); Reynel Dávila (2018); Cajado et al. (2020); Duponchelle et al. (2021); Herrera-R et al. (2024) Max migration distance: 500-3,000km (Zapata &Usma (2013))
Siluriformes	Pimelodidae	*Calophysus macropterus* (Lichtenstein 1819)	VU in Ecuador Red list (Aguirre et al. 2019); Potentially overexploited (Bonilla-Castillo et al. 2022)	Freitas & Garcez (2004); Van Damme et al. (2011); Zapata & Usma (2013); García Dávila et al. (2018); Doria et al. (2018); Arantes et al. (2019); Diaz-Sarmiento & Alvarez-León (2003); Siquiera-Souza et al. (2021); Duponchelle et al. (2021); Arantes et al. (2022); Bonilla-Castillo et al. (2022); Herrera-R et al. (2024)
Siluriformes	Pimelodidae	*Leiarius longibarbis* (Castelnau 1855)	IUCN Red List DD (Perez 2023)	Goulding et al. (2003) , Duponchelle et al. (2021)
Siluriformes	Pimelodidae	*Leiarius marmoratus* (Gill 1870)	VU in Ecuador Red list (Aguirre et al. 2019)	Duponchelle et al. 2021
Siluriformes	Pimelodidae	*Phractocephalus hemioliopterus* (Bloch & Schneider 1801)	unfavorable status in de Souza et al. (2025); VU in Ecuador Red list (Aguirre et al. 2019)	Ribeiro et al. (1995); Agudelo-Córdoba et al. (2000); Barthem & Goulding (2007); Mérona et al. (2010); Van Damme et al. (2011); Val & Almeida et al. (2012); Zapata & Usma (2013); García-Dávila et al. (2018); Hahn et al. (2019) Max migration distance: 100-1,500km (Van Damme et al. 2011)
Siluriformes	Pimelodidae	*Pinirampus pirinampu* (Spix & Agassiz 1829)	EN in Ecuador Red list (Aguirre et al. 2019); Indications of Overfished status (Ruffino & Isaac 1999)	Agostinho et al. (2007b); Duponchelle et al. 2021
Siluriformes	Pimelodidae	*Platynematichthys notatus* (Jardine & Schomburgk 1841)	NT in Ecuador Red list (Aguirre et al. 2019)	Diaz-Sarmiento & Alvarez-León, (2003); Zapata & Usma (2013); García Dávila et al. (2018); Van Damme et al. (2011); Doria et al.

Order	Family	Genus and Species	Threatened status & Source	Migration information & Source(s)
				(2018); Arantes et al. (2019); Herrera-R et al. (2024)
Siluriformes	Pimelodidae	*Pseudoplatystoma punctifer* (Castelnau, 1855)	Pseudoplatystoma spp. listed in de Souza et al. (2025) ; VU in Ecuador Red list (Aguirre et al. 2019); VU in Colombia red list (Mojica et al. 2012); Signs of overexploitation everywhere in the Amazon: Peru (Armas et al. 2022), Colombia (Camacho-Garcia 2006) Population structuring in the Madeira above and below the former rapids (Telles et al. 2014; Cunha-Machado et al. 2021).	Goulding (1979), Ribeiro et al. (1995), Diaz-Sarmiento & Alvarez-León (2003), Barthem & Goulding (2007), Van Damme et al. (2011), Telles et al. (2014), García-Dávila et al. (2018), Reynel Dávila (2018), Hahn et al. (2019), Nunes et al. (2019), Cajado et al. (2020) Max migration distance: 100-1,500km (Van Damme et al. 2011)
Siluriformes	Pimelodidae	*Pseudoplatystoma tigrinum* (Valenciennes 1840)	Pseudoplatystoma spp. listed in de Souza et al. (2025); Colombia Red List (VU) ; VU in Ecuador Red list (Aguirre et al. 2019); Overfishing (Ruffino & Isaac 1999)	Goulding (1979); Agudelo-Córdoba et al. (2000); Cipamocha (2002); Diaz-Sarmiento & Alvarez-León (2003); Barthem & Goulding (2007); Rojas et al. (2007); Van Damme et al. (2011); Zapata & Usma (2013); García-Dávila et al. (2018); Reynel Dávila (2018); Cajado et al. (2020); ICMBio (2018) Max migration distance: 500-3,000km (Zapata & Usma 2013)
Siluriformes	Pimelodidae	*Sorubim lima* (Bloch & Schneider 1801)	NT in Ecuador Red list (Aguirre et al. 2019); NT in Colombia red list (Mojica et al. 2012)	Van Damme et al. (2011); Doria et al. (2018); Agostinho et al. (2007b); Diaz-Sarmiento & Alvarez-León, (2003); Zapata & Usma (2013); García Dávila et al. (2018); Arantes et al. (2019); Freitas & Garcez (2004); Herrera-R et al. (2024) Max migration distance: 100-1,500km (Van Damme et al. 2011)
Siluriformes	Pimelodidae	*Sorubimichthys planiceps* (Spix & Agassiz 1829)	NT in Colombia red list (Mojica et al. 2012)	Van Damme et al. (2011); Doria et al. (2018); Diaz-Sarmiento & Alvarez-León (2003); Zapata & Usma (2013) García Dávila et al. (2018); Santos, Ferreira & Zuanon (2009); Herrera-R et al. (2024)

Order	Family	Genus and Species	Threatened status & Source	Migration information & Source(s)
				Max migration distance: 100-500 km (Zapata & Usma 2013)
Siluriformes	Pimelodidae	*Zungaro zungaro* (Humboldt 1821)	VU in Ecuador Red list (Aguirre et al. 2019); VU in Colombia red list (Mojica et al. 2012)	Ribeiro et al. (1995); Alonso (1998); Barthem & Goulding (2007); Van Damme et al. (2011); Zapata & Usma (2013); García-Dávila et al. (2018); Duponchelle et al. (2021); Miranda-Chumacero et al. (2020); Herrera-R et al. (2024) Max migration distance: 100-1,500km (Van Damme et al. 2011)

Table 2: Summary Table for CMS Listing

Scientific name	**Distribution (countries)**	**Meets CMS criteria for migratory? (Y/N/UNK + short description)**	**Meets CMS criteria for unfavorable conservation status? (Y/N/UNK + reason)**	**Would benefit from international cooperation? (Y/N/UNK + why)**	**Meets all criteria for Appendix II of CMS?**	**Key references (supporting citations)**
Leporinus agassizii	Brazil; Peru; Colombia	UNK — Regional potamodromous movements reported. Max migration distance: <100 km on the Caquetá (Zapata & Usma 2013). Transboundary movement not established.	Y — *Leporinus* spp. unfavorable (de Souza et al., 2025).	UNK — Aggregated reporting obscures shared-stock evidence; need species-level monitoring.	UNK — Pending confirmation of transboundary movement and shared stocks.	Zapata & Usma 2013; García-Dávila et al. 2018; Duponchelle et al. 2021; de Souza et al. 2025
Leporinus bimaculatus	Brazil	UNK — Seasonal movements typical for Leporinus spp. Max migration distance: UNK for this species; no species-specific values located.	Y — *Leporinus* spp. unfavorable (de Souza et al., 2025)	N — Currently documented only from Brazil (Tocantins–Araguaia/Amazon main channel).	N — Transboundary not established; cooperation criterion not met.	Dagosta & Pinna 2019; Arantes et al. 2019; Herrera-R et al. 2024; de Souza et al. 2025
Leporinus bleheri	Brazil; Bolivia	UNK — No species-specific distances found. Max migration distance: UNK. Likely seasonal/local movements typical of Leporinus spp.; transboundary not documented.	Y — *Leporinus* spp. unfavorable (de Souza et al., 2025)	UNK — Occurs in both Brazil and Bolivia; evidence of shared transboundary stocks is lacking.	UNK — Transboundary unknown; conservation status not demonstrably unfavorable beyond group-level evidence.	Géry 1999; Boaretto et al. 2024
Leporinus fasciatus	Brazil; Peru; Bolivia; Colombia; Ecuador	Y — Potamodromous with lateral/reproductive migrations (flooded forest use; upstream moves in Vaupés/Caquetá). Max migration distance: 1,100 km (Ribeiro et al., 1995);	Y — Leporinus spp. unfavorable (de Souza et al., 2025).	Y — Multi-country distribution with shared corridors; coordinate monitoring and seasonal closures.	Y — Migratory + (group-level) unfavorable status + cooperation benefits.	Dagosta & Pinna 2019; Goulding 1980; Ribeiro 1983; Ribeiro et al. 1995; Oliveira & Ferreira 2002; Barthem & Goulding 2007; Zapata & Usma 2013; etc.

Scientific name	Distribution (countries)	Meets CMS criteria for migratory? (Y/N/UNK + short description)	Meets CMS criteria for unfavorable conservation status? (Y/N/UNK + reason)	Would benefit from international cooperation? (Y/N/UNK + why)	Meets all criteria for Appendix II of CMS?	Key references (supporting citations)
		ranges 100–1,000 km across studies (Barthem & Goulding 2007).				
Leporinus friderici	Brazil; Peru; Bolivia; Colombia; Ecuador	Y — Long-distance movements documented across multiple basins; Max migration distance: 1,500 km overall (Van Damme et al., 2011); 800–1,100 km in Tocantins–Araguaia (Ribeiro et al., 1995). Local/regional upstream migrations in Caquetá and Vaupés systems; spawning at onset of floods.	Y — Leporinus spp. unfavorable (de Souza et al., 2025).	Y — Multi-country range and shared corridors; coordinate larval drift/telemetry monitoring and management.	Y — Migratory + (group-level) unfavorable status + cooperation benefits.	Dagosta & Pinna 2019; Craig et al. 2020; Ribeiro et al. 1995; Cipamocha 2002; Barthem & Goulding 2007; Van Damme et al. 2011; Zapata & Usma 2013; García-Dávila et al. 2018; Duponchelle et al. 2021
Leporinus y-ophorus	Colombia; Venezuela — Orinoco basin (incl. Meta). Reported from the Amazon basin; confirmed in Colombian Amazonia.	UNK — Species-specific longitudinal migrations not documented. Lateral movements between river channels and floodplain lakes are known for Amazon headwaters fishes; no distances reported specifically for this species. Max migration distance: UNK.	Y — Leporinus spp. flagged with unfavorable status (de Souza et al., 2025).	UNK — Occurs in at least two countries (Colombia, Venezuela), but evidence of shared transboundary stocks or cross-border management impacts is lacking.	UNK — Transboundary migrations and shared-stock evidence are not established; conservation concerns unclear beyond group-level signal.	Osorio et al. 2011 (lateral migrations study); Herrera-R et al. 2024.
Schizodon fasciatus	Brazil; Peru; Bolivia; Colombia; Ecuador; Venezuela; Guyana; Suriname; French Guiana — basins include Lower Xingu;	UNK — Genus noted as gregarious in the Amazon and undergoing migrations, and lateral movements between channels and floodplain habitats are	Y — Reported as unfavorable at the genus level (de Souza et al., 2025).	UNK — Occurs in multiple countries, but evidence for shared transboundary stocks or management	UNK — Insufficient evidence of transboundary migrations and shared stocks at present.	Dagosta & Pinna 2019); Zapata & Usma 2013; García-Dávila et al. 2018

Scientific name	Distribution (countries)	Meets CMS criteria for migratory? (Y/N/UNK + short description)	Meets CMS criteria for unfavorable conservation status? (Y/N/UNK + reason)	Would benefit from international cooperation? (Y/N/UNK + why)	Meets all criteria for Appendix II of CMS?	Key references (supporting citations)
	Mamoré; Guaporé; Beni–Madre de Dios; middle–lower Madeira; Purus; Juruá; Javari; Ucayali; Putumayo; Japurá; Negro; Branco; Urubu-Uatumã; Jari; Amazon main channel & estuary; Maroni–Approuague; Coppename–Suriname–Saramacca; Corentyne–Demerara; Essequibo; Maracaibo (per Dagosta & Pinna, 2019).	typical; however, species-specific longitudinal distances and transboundary migrations were not found. Max migration distance: UNK.		interactions is limited.		
Brycon amazonicus	Brazil; Peru; Bolivia; Colombia	Y — Potamodromous; adults move to clear/blackwater tributaries in low water; spawn in whitewater mainstems with rising water; larvae drift to floodplains. Transboundary potential in Madeira–Guaporé/Beni and broader Amazon. Max migration distance: 100–1,500 km (Van Damme et al., 2011).	Y — Considered overfished or highly vulnerable to growth overfishing (Goulding et al. 2018); *Brycon* spp. unfavorable status (de Souza et al., 2025); .	Y — Shared stocks across countries; need coordinated monitoring/harvest rules.	Y — Migratory + unfavorable status + cooperation benefits.	Dagosta & Pinna 2019; Goulding 1979; Van Damme et al. 2011; de Souza et al. 2025; Goulding et al. 2018, etc.
Brycon falcatus	Brazil; Bolivia; Colombia; Peru	Y — Long-distance movements across multiple basins; trophic and reproductive migrations	Y — *Brycon* spp. unfavorable status (de Souza et al., 2025).	Y — Wide distribution and likely shared stocks; coordinate	Y — Migratory + unfavorable status + cooperation benefits.	Dagosta & Pinna 2019; Ribeiro et al. 1995; Santos et al. 2006; de

Scientific name	Distribution (countries)	Meets CMS criteria for migratory? (Y/N/UNK + short description)	Meets CMS criteria for unfavorable conservation status? (Y/N/UNK + reason)	Would benefit from international cooperation? (Y/N/UNK + why)	Meets all criteria for Appendix II of CMS?	Key references (supporting citations)
		(Caquetá, Tocantins/Araguaia, Xingu/Tapajós). Max migration distance: 1,100 km (Ribeiro et al., 1995); ranges of 100–1,000+ km reported across studies.		monitoring/management.		Souza et al. 2025; Smerman 2007, etc.
Brycon melanopterus	Brazil; Peru; Bolivia; Colombia	Y — Potamodromous; tributary–mainstem spawning migrations; larval drift to floodplains; cross-border potential in Guaporé/Madeira and Putumayo–Caquetá. Max migration distance: 100–1,500 km (Van Damme et al., 2011).	Y — *Brycon* spp. unfavorable status (de Souza et al., 2025).	Y — Shared stocks across countries; coordinate habitat and harvest protections.	Y — Migratory + unfavorable status + cooperation benefits.	Dagosta & Pinna 2019; Goulding 1979; Barthem & Goulding 2007; Guerreiro 2019; etc.
Prochilodus nigricans	Brazil; Peru; Bolivia; Colombia; Ecuador — Amazon Basin. Basins per Dagosta & Pinna (2019) & Craig et al. (2020): Upper/lower Tocantins–Araguaia; upper/lower Xingu (incl. Iriri); Tapajós (Teles Pires, Juruena, Jamanxim); Mamoré–Guaporé; Beni–Madre de Dios; middle–lower Madeira & shield tributaries; Purús;	Y — Long-distance potamodromous with lateral (floodplain↔channel) and longitudinal migrations. Spawns in main channels at rising water; eggs/larvae drift to whitewater floodplains; subadults/adults later migrate upstream to parental stocks. Cross-border corridors include Putumayo–Japurá/Caquetá (Colombia–Peru/Brazil) and Guaporé–Madeira (Bolivia–Brazil). Max	Y — Group flagged as unfavorable (de Souza et al., 2025). Regional Red Lists: **VU Ecuador** (Aguirre et al., 2019); **VU Colombia** (Mojica et al., 2012). Evidence of heavy exploitation and/or declining catches reported in parts of basin	Y — Multi-country distribution with demonstrated basin-scale migrations and shared fisheries. Needs transboundary data sharing (landings/effort, larval drift), coordinated telemetry, harmonized seasonal closures, and environmental-flow coordination; monitor	Y — Transboundary migrant with unfavorable/regional conservation signals and clear value from international cooperation.	Dagosta & Pinna 2019; Craig et al. 2020; Goulding 1979; Ribeiro et al. 1995; Cox-Fernandes 1997; Salinas & Agudelo 2000; Oliveira & Ferreira 2002; Barthem & Goulding 2007; Smerman 2007; Ortega-Lara et al. 2009; Van Damme et al. 2011; Mounic-Silva & Leite 2013; Zacardi et al. 2017; Zapata & Usma 2013; Isaac et al. 2015; Hermann et al. 2016;

Scientific name	Distribution (countries)	Meets CMS criteria for migratory? (Y/N/UNK + short description)	Meets CMS criteria for unfavorable conservation status? (Y/N/UNK + reason)	Would benefit from international cooperation? (Y/N/UNK + why)	Meets all criteria for Appendix II of CMS?	Key references (supporting citations)
	Juruá; Ucayali; Marañón–Nanay; Napo–Ambyiacu; Putumayo; Japurá; Trombetas; Jari; Amazon main channel & estuary; Fitzcarrald Arch drainages (Yuruá, Urubamba, Purús, Las Piedras).	migration distance: 100–1,500 km overall (Van Damme et al., 2011); 500–1,300 km (Silva & Stewart, 2017); 800–1,100 km (Ribeiro et al., 1995) in Tocantins/Araguaia; >1,000 km reported by Goulding et al. (2018).	(Anderson et al., 2009; Catarino et al., 2014; Bonilla-Castillo et al., 2018; Heilpern et al., 2021), though some studies suggest dynamics strongly influenced by flood-pulse rather than fishing alone (Mota & Ruffino, 1997; Bayley et al., 2018). Genetic studies show structure among sub-basins (Machado et al., 2017; Lopes, 2018) and that major rapids are not absolute barriers (Soares, 2016).	dam impacts and passage in Madeira/Tapajós/Xingu/Tocantins.		Soares 2016; Machado et al. 2017; Silva & Stewart 2017; García-Dávila et al. 2018; Goulding et al. 2018; Lopes 2018; Borie et al. 2019; Cajado et al. 2020; Miranda-Chumacero et al. 2020; Aguirre et al. 2019; Mojica et al. 2012; Anderson et al. 2009; Catarino et al. 2014; Bonilla-Castillo et al. 2018; Heilpern et al. 2021; Mota & Ruffino 1997; Bayley et al. 2018
Semaprochilodus insignis	Brazil; Peru; Colombia; Ecuador; Bolivia (introduced) — Amazon Basin. Basins per Dagosta & Pinna (2019) and Craig et al. (2020): Lower Xingu;	Y — Long-distance potamodromous with lateral (floodplain↔channel) and longitudinal migrations. Three seasonal migrations described for Central Amazon	Y — Group flagged as unfavorable (de Souza et al., 2025). Heavily fished with dynamics linked to flood conditions	Y — Multi-country range and shared fisheries; benefits from transboundary data sharing (landings/effort, larval drift), coordinated	Y — Transboundary migrant with unfavorable status indicators and clear value from international cooperation.	Dagosta & Pinna 2019; Craig et al. 2020; Ribeiro & Petrere 1990; Cox-Fernandes 1997; Oliveira & Ferreira 2002; Barthem & Goulding 2007; Batista & Lima

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	Juruena; Tapajós; Mamoré; Guaporé; middle–lower Madeira; Purús; Coari-Urucu; Ucayali; Marañón-Nanay; Napo-Ambyiacu; Putumayo; Japurá; Negro; Branco; Trombetas; Amazon main channel & estuary. Goulding et al. (2018) note absence from Bolivia until introductions in the 1980s, followed by spread in Mamoré/Guaporé.	(whitewater/blackwater/clear water use). Spawns at beginning of floods (eggs/larvae drift to nurseries); adults disperse during low water. Regional corridors include Putumayo–Amazon/Caquetá and Madeira/Tapajós systems. Max migration distance: 100–1,500 km overall (Van Damme et al., 2011); ~300 km seasonal legs in Central Amazon (Ribeiro & Petrere, 1990); >1,300 km reported (Goulding et al., 2018).	(Ribeiro & Petrere 1990; Batista et al. 2012; Camacho Guerreiro et al. 2021). Genetic signals of erosion due to overexploitation (Nunes et al., 2023).	telemetry, harmonized seasonal closures, and environmental-flow coordination; monitor dam/rapids passage in Madeira/Tapajós/Xingu.		2010; Van Damme et al. 2011; Zapata & Usma 2013; Zacardi et al. 2014; Barthem et al. 2016; García-Dávila et al. 2018; Goulding et al. 2018; Borie et al. 2019; Nunes et al. 2019; Cajado et al. 2020; Batista et al. 2012; Camacho Guerreiro et al. 2021; Nunes et al. 2023
Colossoma macropomum	Brazil; Peru; Bolivia; Colombia; Ecuador — Amazon Basin. Basins per Dagosta & Pinna (2019): Lower Tocantins; Teles Pires; Tapajós; Mamoré; Guaporé; Beni–Madre de Dios; middle–lower Madeira; Putumayo; Japurá; Urubu-Uatumã; Trombetas; Amazon main channel.	Y — Long-distance potamodromous with seasonal lateral (floodplain↔channel) and longitudinal migrations. Adults exit floodplains as waters fall; spawn in whitewater main channels at onset of floods; eggs/larvae drift to floodplain nurseries; juveniles/subadults later migrate upstream to parental stocks. Genetic and fishery evidence shows	Y — IUCN Red List NT and population trend decreasing; regional Red Lists: **Bolivia VU** , **Colombia NT**. Multiple reports of declining populations/catches and/or heavy exploitation across parts of Brazil, Colombia, and Peru (Petrere	Y — Widely shared stocks and fisheries across multiple countries; needs transboundary monitoring (landings/effort, larval drift), telemetry/genetics, harmonized seasonal closures and size limits, and coordination on environmental flows	Y — Transboundary migrant with unfavorable conservation signals and clear value from international cooperation.	Dagosta & Pinna 2019; Fernández 1991; Tello et al. 1992; Cox-Fernandes 1997; Loubens & Panfili 1997; Vieira et al. 1999; Barthem & Goulding 2007; Santos et al. 2007; Farias et al. 2010; Van Damme et al. 2011; Aldea-Guevara et al. 2013; Zapata & Usma 2013; Barthem et al. 2016; García-Dávila et al. 2018; Goulding et al.

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		connectivity along thousands of km and passage around major rapids is not an absolute barrier. Transboundary corridors include Putumayo/Caquetá/Japurá (Colombia–Peru/Brazil) and Madeira/Guaporé (Bolivia–Brazil). Max migration distance: 100–1,500 km overall (Van Damme et al., 2011); >1,700–3,600 km gene-flow/connectivity footprints (Farias et al., 2010; Santos et al., 2018).	1983; Isaac & Ruffino 1996; Araujo-Lima & Goulding 1997; da Costa et al. 2001; Garcez & Freitas 2011; Campos et al. 2015; García-Vásquez et al. 2009; Prestes et al. 2022). Some studies indicate strong flood-pulse control on dynamics (e.g., Vieira et al. 1999 synthesis) but overall risk indicators warrant 'unfavorable'.	and dam/rapids passage.		2018; Santos et al. 2018; Petrere 1983; Isaac & Ruffino 1996; Araujo-Lima & Goulding 1997; da Costa et al. 2001; Garcez & Freitas 2011; Campos et al. 2015; García-Vásquez et al. 2009; Prestes et al. 2022.
Mylossoma albiscopum	Brazil; Peru; Bolivia; Colombia; Ecuador — Amazon Basin (western/central).	UNK — Potamodromous genus with seasonal use of floodplains and river channels; species-specific, transboundary distances not established for *M. albiscopum*. Max migration distance: considered a medium distance (100-500km) migrant and has documented migrations in the Juruá, Madeira, Napo,	Y — Regional Red List: Ecuador NT; additional recent assessments flagged concern for the species group.	UNK — Likely shared fisheries across borders, but stock connectivity and transboundary management links require evidence.	UNK — Pending confirmation of regular transboundary migrations and shared stocks.	Ecuador Red List (Aguirre et al., 2019); Herrera-R et al. (2024); Zapata & Usma (2013)

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		Putumayo and mainstem of the Amazon (Herrera-R et al. 2024, Zapata & Usma 2013).				
Piaractus brachypomus	Brazil; Peru; Bolivia; Colombia; Ecuador; Venezuela — Amazon and Orinoco basins.	Y — Long-distance potamodromous with seasonal lateral (floodplain↔channel) and longitudinal movements; spawns in main channels during rising water with larval drift to floodplains. Max migration distance: 100–1,500 km (multi-basin reports).	Y — Unfavorable status flagged (de Souza et al., 2025); population declines reported in Colombia and Madeira, no recovery signals in some fisheries, and declining mean catches in parts of Peru.	Y — Multi-country distribution and shared fisheries suggest value of coordinated monitoring, seasonal closures, and data sharing across Amazon–Orinoco corridors.	Y — Transboundary migrant with unfavorable status indicators and clear benefits from cooperation.	Ramírez-Gil & Ajiaco-Martínez 2001; Lasso et al. 2011; Goulding 1979; Escobar et al. 2015; García-Vásquez et al. 2009; Fernández 1991; Tello et al. 1992; Cox-Fernandes 1997; Loubens & Panfili 1997; Vieira et al. 1999; Barthem & Goulding 2007; Santos et al. 2007; Fazzi-Gomes et al. 2017; Farias et al. 2010; Van Damme et al. 2011; Aldea-Guevara et al. 2013; Zapata & Usma 2013; Barthem et al. 2016; García-Dávila et al. 2018; Goulding et al. 2018; Santos et al. 2018
Arapaima gigas	Brazil; Peru; Colombia; Ecuador — Amazon Basin (floodplain systems).	UNK — Primarily lateral movements between floodplain lakes and main channels; uncertain if long-distance, transboundary migrations. Local fishers knowledge	Y — Threatened by historical overharvest; regional Red Lists include VU in Colombia and Ecuador; IUCN	Y — Cross-border enforcement and harmonized harvest/monitoring protocols would support recovery and management.	UNK — Uncertain whether meets the CMS transboundary migratory criterion, despite conservation concern.	Stone 2007; Barthem & Goulding 2007; Cella-Ribeiro et al. 2015; Pérez 2015; Vasconcelos 2017; García-Dávila et al. 2018; Caldas et al. 2023; Castello 2008; regional

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		indicate migrations along the main stems chasing prey during low water season and then reentering the floodplain once the water rises. Max migration distance: UNK.	currently Data Deficient in some treatments.		Uncertainty in taxonomic status as likely a species complex.	Red Lists (Colombia VU; Ecuador VU)
Auchenipterus nuchalis	Brazil; Peru; Colombia; Ecuador; Bolivia — Amazon Basin (records in Loreto–Peru and across central/western Amazon; additional occurrences likely in adjacent basins; refine as needed).	UNK — No species-specific evidence for long-distance, transboundary migrations found in provided sources; likely seasonal/lateral movements within floodplain–channel habitats typical of driftwood catfishes. Max migration distance: UNK.	Y — IUCN population trend reported as Decreasing. Regional sources note fishery relevance and habitat dependence.	UNK — Occurs across multiple Amazon countries; shared-stock/management linkages not yet documented at transboundary scale.	UNK — Transboundary migrations not established; conservation trend suggests monitoring need.	García-Dávila et al. 2018; Herrera-R et al. 2024; Duponchelle et al. 2021; IUCN Red List (trend decreasing)
Brachyplatystoma capapretum	Brazil; Peru; Colombia; Bolivia — Amazon mainstem and large tributaries. From Belém (Brazil) upriver to at least Iquitos (Peru); records in Trombetas, Madeira (incl. headwaters), Negro, Manacapuru, Purús, Tefé, Juruá, Jutaí, Içá; basins per Dagosta & Pinna (2019): Mamoré, middle–lower Madeira	Y — Potamodromous; adults move upstream, larvae/juveniles drift downstream. Larvae/juveniles recorded along Madeira rapids/headwaters imply upstream spawning; adults captured migrating upstream near Xingu–Iriri confluence; egg/larval distributions suggest multiple populations. Likely transboundary via Madeira–Mamoré–Beni (Bolivia–	Y — IUCN **Near Threatened**, trend **Decreasing** (2020). Rare in some regional landings; subject to fisheries pressures and potential barrier impacts.	Y — Multi-country range with inferred cross-border connectivity; needs coordinated larval-drift monitoring, landings/effort data sharing, telemetry/genetics, and passage/flow coordination for Madeira/Xingu systems.	Y — Transboundary migrant + unfavorable status + clear gains from cooperation.	Lundberg & Akama 2005; Dagosta & Pinna 2019; Barthem & Goulding 2007; Cella-Ribeiro et al. 2015; Pérez 2015; Vasconcelos 2017

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	& shield tributaries, Purús, Tefé, Negro, Urubu-Uatumã, Amazon main channel & estuary.	Brazil) and along the Amazon mainstem (Peru–Colombia–Brazil). Max migration distance: 100–1,000 km.				
Brachyplatystoma filamentosum	Brazil; Peru; Bolivia; Colombia; Ecuador — Amazon Basin. Basins per Dagosta & Pinna (2019) and Craig et al. (2020): upper/lower Tocantins; Araguaia; upper/lower Xingu; Teles Pires; Juruena; Tapajós; Jamanxim; Mamoré; Guaporé; Beni–Madre de Dios; middle–lower Madeira & shield tributaries; Purús; Marañón–Nanay; Putumayo; Japurá; Negro; Branco; Trombetas; Jari; Amazon main channel.	Y — Long-distance potamodromous. Adults move upstream, often chasing mixed migratory schools; eggs/larvae/juveniles distributed in headwaters and mainstem with downstream drift (Madeira, Ucayali/Marañón/Napo). Transboundary corridors include Madeira–Mamoré–Beni (Bolivia–Brazil) and Andean piedmont tributaries into the Amazon mainstem (Peru/Colombia→Brazil). Max migration distance: 100–1,000 km (Barthem & Goulding, 2007); evidence of movements >1,000 km from otolith microchemistry (Hegg et al., 2015).	Y — IUCN trend decreasing; **VU** on Colombia & Ecuador Red Lists; group flagged as unfavorable (de Souza et al., 2025). Evidence of overexploitation/potential overfishing in parts of basin (Petrere et al., 2004); recent assessments and fishery/landings studies raise concern (de Queiroz et al., 2018; Cruz et al., 2020; Anderson et al., 2025). Genetic/clade structure across water types indicates potential	Y — Crosses multiple national borders; shared fisheries and basin-scale life cycle warrant coordinated larval-drift monitoring, telemetry/genetics, standardized catch/effort reporting, harmonized seasonal protections, and environmental-flow/passage coordination at rapids/dams (e.g., Madeira, Xingu).	Y — Transboundary migrant with unfavorable conservation indicators and clear value from international cooperation.	Dagosta & Pinna 2019; Craig et al. 2020; Goulding 1979; Ribeiro et al. 1995; Agudelo-Córdoba et al. 2000; Petrere et al. 2004; Barthem & Goulding 2007; Huergo 2009; Mérona et al. 2010; Val & Almeida 2012; Zapata & Usma 2013; Hegg et al. 2015; Cella-Ribeiro et al. 2015; García-Dávila et al. 2015; Isaac et al. 2015; Hermann et al. 2016; Vasconcelos 2017; García-Dávila et al. 2018; Nunes et al. 2019; Cajado et al. 2020; de Queiroz et al. 2018; Cruz et al. 2020; Aguirre et al. 2019 (Ecuador RL VU); Anderson et al. 2025

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			population subdivisions (Huergo, 2009).			
Brachyplatystoma juruense	Brazil; Peru; Colombia; Bolivia; Ecuador — Amazon Basin. Basins per Dagosta & Pinna (2019) and Craig et al. (2020): middle–lower Madeira; Purús; Juruá; Ucayali; Putumayo; Japurá; Trombetas; Amazon main channel; Fitzcarrald Arch drainages incl. Yuruá & Purús.	Y — Iconic long-distance potamodromous catfish. Spawns in Andean piedmont/headwaters (e.g., Beni/Madre de Dios/Ucayali–Urubamba, Napo, Putumayo–Içá, Caquetá–Japurá), with eggs/larvae drifting thousands of km to nurseries in the central/eastern Amazon and juveniles/subadults later returning upstream as adults. Cross-border corridors span Peru/Colombia/Bolivia → Brazil via Madeira and mainstem Amazon. Max migration distance: ~4,238 km (Barthem et al., 2017); basin-specific estimates up to ~5,788 km (Ucayali–Urubamba) and other routes 3,493–4,918 km (Barthem et al., 2017); telemetry/genetics document 1,272 km (Hahn et al., 2019).	Y — **VU** on Colombia & Ecuador Red Lists; documented or inferred declines and fishery pressure in parts of the basin; population structure and dam/rapids barriers affect connectivity (Ochoa et al., 2015; Vasconcelos, 2017).	Y — Cross-border life cycle and fisheries; requires transboundary larval-drift monitoring, telemetry/genetics, standardized landings/effort data, harmonized seasonal protections, and coordination on environmental flows and passage at Madeira/Tapajós/Xingu/Tocantins barriers.	Y — Clear transboundary migrations, conservation concern, and strong potential gains from international cooperation.	Arboleda 1989; Barthem & Goulding 2007; Cañas & Pine 2011; Zapata & Usma 2013; Cella-Ribeiro et al. 2015; García-Dávila et al. 2015; Ochoa et al. 2015; Barthem et al. 2017; Vasconcelos 2017; García-Dávila et al. 2018; Goulding et al. 2018; Hahn et al. 2019; Hauser et al. 2019; Herrera-R et al. 2024; Dagosta & Pinna 2019; Craig et al. 2020

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Brachyplatystoma platynema	Brazil; Peru; Colombia; Ecuador; Venezuela — Amazon and Orinoco basins. Notes: widely distributed in large river channels; records from Madeira and Ucayali among others.	Y — Potamodromous; reported to migrate during high-water/flood season; adults use deep main-channel habitats. Species-specific longitudinal distances are poorly known; genus includes extreme long-distance migrants. Max migration distance: UNK (no robust distance estimate located for this species).	Y — Regional Red Lists: **Colombia = VU**; **Ecuador = EN**. Recent syntheses flag concerns for fisheries pressure and declines in parts of the range.	Y — Shared stocks across Amazon–Orinoco countries; needs coordinated monitoring (landings/effort), telemetry/genetics to resolve stock structure, and harmonized seasonal protections.	Y — Transboundary migrant, unfavorable regional status signals, and clear benefits from cooperation.	Zapata & Usma 2013; García-Dávila et al. 2018; Herrera-R et al. 2024; Anderson et al. 2025; Hauser et al. 2019 (life cycle of B. platynemum poorly known; hypothesized similar to B. rousseauxii).
Pseudoplatystoma tigrinum	Brazil; Peru; Colombia; Ecuador; Venezuela; (Amazon Basin only). Basins per Dagosta & Pinna (2019): Teles Pires; Mamoré; Guaporé; Beni–Madre de Dios; middle–lower Madeira; Marañón–Nanay; Branco; Amazon main channel.	Y — Potamodromous with two seasonal migrations: trophic (low water) and reproductive (rising water). Documented movements include: short migrations in Caquetá/Japurá; upstream reproductive movements in Vaupés (Apr); co-migration in Putumayo with Prochilodus and Brachyplatystoma; 300–500 km (Colombia); 100–1,000 km (basin synthesis); larvae in Madre de Dios (Peru); Max migration distance reported 500–3,000 km (Zapata & Usma, 2013). Capable of passing major rapids (e.g., Teotônio, Madeira).	Y — *Pseudoplatystoma* spp. flagged in de Souza et al. (2025); **VU** on Colombia and Ecuador Red Lists; evidence of overfishing in Amazon fisheries (e.g., Ruffino & Isaac 1999).	Y — Multi-country, mixed-stock fishery; needs coordinated landings/effort monitoring, telemetry/genetics to resolve stock structure, and harmonized seasonal protections.	Y — Transboundary migrations + unfavorable indicators + clear cooperation value.	Buitrago-Suárez & Burr 2007; Dagosta & Pinna 2019; Goulding 1979; Agudelo-Córdoba et al. 2000; Cipamocha 2002; Díaz-Sarmiento & Álvarez-León 2003; Barthem & Goulding 2007; Rojas et al. 2007; Van Damme et al. 2011; Zapata & Usma 2013; García-Dávila et al. 2018; Reynel Dávila 2018; Cajado et al. 2020; ICMBio 2018; de Souza et al. 2025; Ruffino & Isaac 1999

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Calophysus macropterus	Brazil; Peru; Colombia; Ecuador; Venezuela; Bolivia — Amazon and Orinoco basins; main channels and large tributaries; frequent in floodplain systems.	Y — Regional reports describe seasonal movements linked to the flood pulse and dispersal along main channels; consistent transboundary, long-distance migrations are not well quantified. Reproduction data from several countries, Bolivia (Loubens & Aquim 2006), Brasil (Perez & Fabré 2002), Peru and Colombia (Bonilla-Castillo et al. 2022) suggest important migrations towards the Andean piedmont for reproduction. Given the distribution of the species, it implies transboundary movements. Max migration distance: UNK.	Y — **VU** in Ecuador Red List (Aguirre et al., 2019); evidence of intense exploitation/overexploitation in parts of the basin (e.g., Bonilla-Castillo et al., 2022; Arantes et al., 2019, 2022).	Y — Shared multi-country fisheries (Amazon–Orinoco). Priorities: coordinated landings/effort monitoring, trade/market tracing, bycatch controls, and harmonized seasonal protections.	Y — Conservation concerns present,some evidence for transboundary migrations, more study recommended.	Freitas & Garcez 2004; Díaz-Sarmiento & Álvarez-León 2003; Van Damme et al. 2011; Zapata & Usma 2013; García-Dávila et al. 2018; Doria et al. 2018; Arantes et al. 2019; Siqueira-Souza et al. 2021; Duponchelle et al. 2021; Arantes et al. 2022; Herrera-R et al. 2024; Bonilla-Castillo et al. 2022; Aguirre et al. 2019
Leiarius longibarbis	Amazon Basin (multi-country; confirm with basin list from Dagosta & Pinna 2019 / GBIF).	UNK — Seasonal movements with flood pulse likely; no species-specific proof of regular long-distance transboundary migrations found in provided sources. Max migration distance: UNK.	UNK — **IUCN Red List = Data Deficient**; insufficient evidence for trend, though regional reviews note fishery relevance.	UNK — Occurs across multiple jurisdictions; cooperation could help via coordinated monitoring and data sharing, but shared-stock evidence is limited.	UNK — Pending evidence of transboundary migration and unfavorable status.	Goulding et al. 2003; Duponchelle et al. 2021
Leiarius marmoratus	Amazon and Orinoco basins (multi-country;	UNK — Reports of seasonal movements with flood	Y — **VU** on Ecuador Red List	UNK — Likely shared among countries;	UNK — Transboundary	Duponchelle et al. 2021; (Zapata and Usma 2013);

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	confirm detailed basin list from Dagosta & Pinna 2019 / GBIF).	pulse;considered short distance migrant of less than 100 km (Zapata and Usma 2013); transboundary extent not well quantified. Max migration distance: UNK	(Aguirre et al., 2019).	coordinated fishery monitoring and trade controls could help, pending stronger stock-link evidence.	migration evidence insufficient; conservation concern present regionally.	Aguirre et al. 2019 (Ecuador RL)
Phractocephalus hemioliopterus	Brazil; Peru; Colombia; Ecuador; Bolivia; Venezuela — Amazon Basin main channel and large tributaries (per Dagosta & Pinna 2019 list of basins: upper/lower Tocantins; Araguaia; upper/lower Xingu; Iriri; Teles Pires; Tapajós; Mamoré; Guaporé; Beni–Madre de Dios; middle–lower Madeira & shield tributaries; Purús; Coari–Urucu; Tefé; Juruá; Marañón–Nanay; Putumayo; Japurá; Negro; Branco; Trombetas; Jari; Amazon main channel).	Y — Potamodromous with medium-to-long migrations. Reported distances include 400–800 km (middle Araguaia); 100–250 km (lower Tocantins); 100–1,000 km (basinwide synthesis); 100–1,500 km (fisheries data); 100–500 km regional (Colombia); and telemetry >347 km in the Xingu. Spawns from end of low water into early floods.	Y — Unfavorable status flagged in de Souza et al. (2025); **VU** on Ecuador Red List (Aguirre et al., 2019).	Y — Multi-country distribution and cross-basin movements; benefits from coordinated monitoring (landings/effort, eggs/larvae), telemetry/genetics, and harmonized seasonal protections.	Y — Transboundary migrant with unfavorable indicators and clear cooperation value.	Dagosta & Pinna 2019; Ribeiro et al. 1995; Agudelo-Córdoba et al. 2000; Barthem & Goulding 2007; Mérona et al. 2010; Van Damme et al. 2011; Val & Almeida 2012; Zapata & Usma 2013; García-Dávila et al. 2018; Hahn et al. 2019; de Souza et al. 2025; Aguirre et al. 2019
Pinirampus pirinampu	Brazil; Peru; Colombia; Ecuador; Bolivia; Venezuela — Amazon Basin main channel	UNK — Seasonal movements associated with flood pulse are reported in syntheses; undertake long-	Y — **EN** in Ecuador Red List (Aguirre et al., 2019); indications	Y — Multi-country distribution and shared fisheries suggest value in	UNK — Conservation concern present, but greater	Agostinho et al. 2007b; Duponchelle et al. 2021; Aguirre et al. 2019

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	and large tributaries and other South American basins (species widespread).	distance migrations (500 to 3,000 km) that are associated with reproduction (Garcia Davila et al. 2018); species-specific evidence for regular long-distance **transboundary** migrations in the Amazon is limited in provided sources. Max migration distance: estimated at 500-3,000 km	of overfished status in Amazon fisheries (Ruffino & Isaac, 1999).	coordinated landings/effort monitoring, trade controls, and harmonized seasonal protections; targeted telemetry/genetics needed.	transboundary migration evidence is needed.	(Ecuador RL); Ruffino & Isaac 1999
Platynematichthys notatus	Brazil; Peru; Colombia; Ecuador; Venezuela; Bolivia — Amazon Basin main channel and large tributaries (reports also from Orinoco).	UNK — Seasonal/main-channel movements reported in regional reviews; estimated to undertake long-distance transboundary migrations (500 to 3,000 km) (Garcia Davila et al. 2018, Zapata and Usma 2013); quantitative distances and regular cross-border migrations are not well documented in provided sources. Max migration distance: UNK.	Y — **NT** in Ecuador Red List (Aguirre et al., 2019); additional concerns from regional syntheses and fishery studies.	Y — Shared stocks across countries; needs coordinated monitoring of landings/effort and targeted studies on stock structure and movements.	UNK — Lacks clear evidence of transboundary migrations; conservation signals suggest further study.	Díaz-Sarmiento & Álvarez-León 2003; Van Damme et al. 2011; Zapata & Usma 2013; García-Dávila et al. 2018; Doria et al. 2018; Arantes et al. 2019; Herrera-R et al. 2024; Aguirre et al. 2019 (Ecuador RL)
Pseudoplatystoma punctifer	Brazil; Peru; Colombia; Ecuador; Bolivia; Venezuela — Amazon Basin only (per Dagosta & Pinna	Y — Potamodromous with seasonal trophic (low water) and reproductive (rising water) migrations. Documented movements	Y — **VU** on Ecuador & Colombia Red Lists; widespread signs of	Y — Shares mixed-stock fisheries across countries; needs coordinated landings/effort	Y — Evidence of basin-scale migrations, unfavorable status	Buitrago-Suárez & Burr 2007; Torrico et al. 2009; Dagosta & Pinna 2019; Goulding 1979; Ribeiro et al. 1995; Díaz-Sarmiento

Scientific name	Distribution (countries)	Meets CMS criteria for migratory? (Y/N/UNK + short description)	Meets CMS criteria for unfavorable conservation status? (Y/N/UNK + reason)	Would benefit from international cooperation? (Y/N/UNK + why)	Meets all criteria for Appendix II of CMS?	Key references (supporting citations)
	2019). Basins: Araguaia; Iriri; lower Xingu; Teles Pires; Juruena; Mamoré; Beni–Madre de Dios; middle–lower Madeira; Jutaí; Ucayali; Marañón–Nanay; Napo–Ambiyacu; Negro.	include 100–500 km (Araguaia), 300–500 km (Colombia), >500 km (Tapajós fishers), telemetry 164 km (Xingu), and synthesis 100–1,500 km (basin-wide). Some studies show local genetic structure in the Madeira (e.g., ~200 km scale) indicating restricted dispersal there.	overexploitation in Amazon fisheries (Peru: Armas et al. 2022; Colombia: Camacho-García 2006). Population structuring across Madeira rapids and genetic signals (Telles et al. 2014; Cunha-Machado et al. 2021) raise management concern.	monitoring, telemetry/genetics to resolve stock structure, and harmonized seasonal protections.	signals, and clear cooperation value.	& Álvarez-León 2003; Barthem & Goulding 2007; Smerman 2007; Van Damme et al. 2011; Telles et al. 2014; García-Dávila et al. 2018; Reynel Dávila 2018; Hahn et al. 2019; Nunes et al. 2019; Cajado et al. 2020; Cunha-Machado et al. 2021; Armas et al. 2022; Camacho-García 2006; Aguirre et al. 2019; Mojica et al. 2012
Brachyplatystoma tigrinum	Brazil; Peru; Colombia; Ecuador; Venezuela — Amazon Basin (mainstem and large tributaries).	Y — Potamodromous; trophic (low water) and reproductive (rising water) migrations with cross-border movements. Reported max migration distance: 500–3,000 km (Zapata & Usma, 2013).	Y — **VU** on Ecuador Red List (Aguirre et al., 2019); regional syntheses note fishery pressure and signs of overfishing.	Y — Shared stocks across countries; priority for standardized monitoring, telemetry/genetics, and harmonized seasonal protections.	Y — Transboundary migrations + unfavorable indicators + clear cooperation value.	Goulding 1979; Agudelo-Córdoba et al. 2000; Cipamocha 2002; Díaz-Sarmiento & Álvarez-León 2003; Barthem & Goulding 2007; Rojas et al. 2007; Van Damme et al. 2011; Zapata & Usma 2013; García-Dávila et al. 2018; Reynel Dávila 2018; Cajado et al. 2020; Duponchelle et al. 2021; Herrera-R et al. 2024; Aguirre et al. 2019 (Ecuador RL)

Scientific name	Distribution (countries)	Meets CMS criteria for migratory? (Y/N/UNK + short description)	Meets CMS criteria for unfavorable conservation status? (Y/N/UNK + reason)	Would benefit from international cooperation? (Y/N/UNK + why)	Meets all criteria for Appendix II of CMS?	Key references (supporting citations)
Sorubim lima	Brazil; Peru; Colombia; Ecuador; Bolivia; Venezuela — widely distributed in Amazon main channel and most tributaries. Basins per Dagosta & Pinna (2019): upper/lower Tocantins; Araguaia; Mamoré; Guaporé; Beni–Madre de Dios; middle–lower Madeira; Purús; Tefé; Juruá; Javari; Ucayali; Marañón–Nanay; Napo–Ambiyacu; Putumayo; Negro; Branco; Trombetas; Amazon main channel. In Peru, occurs at the Marañón River crossing Manseriche Gorge (Chuctaya 2014).	Y — Potamodromous, with medium to long migrations associated with the flood pulse. Reported distances include 100–500 km (Colombia/Regional), 100–250 km (lower Tocantins), 400–800 km (middle Tocantins), 800–1,100 km (lower-middle Araguaia), and basin syntheses up to 100–1,500 km. Larvae recorded in Madre de Dios (Peru), indicating upstream spawning with downstream drift.	Y — **NT** on Ecuador and Colombia Red Lists; regional sources note fishery pressures.	Y — Multi-country distribution and shared fisheries; benefits from coordinated monitoring (landings/effort, eggs/larvae), telemetry/genetics, and harmonized seasonal protections.	Y — Transboundary migrations + unfavorable indicators + clear cooperation value.	Littmann 2007; Dagosta & Pinna 2019; Chuctaya 2014; Goulding 1979; Ribeiro et al. 1995; Rojas et al. 2007; Van Damme et al. 2011; Zapata & Usma 2013; Doria et al. 2018; García-Dávila et al. 2018; Cajado et al. 2020; Freitas & Garcez 2004; Agostinho et al. 2007b; Arantes et al. 2019; Herrera-R et al. 2024
Sorubimichthys planiceps	Brazil; Peru; Colombia; Ecuador; Bolivia; Venezuela — Amazon Basin main channel and large tributaries (widely distributed).	Y — Potamodromous, medium-distance seasonal migrations tied to the flood pulse. Reported distances typically **100–500 km** (Zapata & Usma 2013). Regional reports include upstream movements in Caquetá/Putumayo systems	Y — **NT** on Colombia Red List (Mojica et al., 2012); regional syntheses note exploitation/pressure.	Y — Shared, multi-country stocks; priorities include coordinated landings/effort monitoring, telemetry/genetics to clarify stock structure, and	Y — Evidence of cross-border migrations, unfavorable status signals, and clear cooperation value.	Zapata & Usma 2013; Van Damme et al. 2011; Doria et al. 2018; Díaz-Sarmiento & Álvarez-León 2003; García-Dávila et al. 2018; Herrera-R et al. 2024; Mojica et al. 2012 (Colombia RL)

Scientific name	Distribution (countries)	Meets CMS criteria for migratory? (Y/N/UNK + short description)	Meets CMS criteria for unfavorable conservation status? (Y/N/UNK + reason)	Would benefit from international cooperation? (Y/N/UNK + why)	Meets all criteria for Appendix II of CMS?	Key references (supporting citations)
		(Colombia–Peru border) and main-channel migrations in Central Amazon.		harmonized seasonal protections.		
Zungaro zungaro	Brazil; Peru; Colombia; Ecuador; Bolivia; Venezuela — widespread in the Amazon Basin main channel and large tributaries. Basins per Dagosta & Pinna (2019): upper/lower Tocantins; Araguaia; upper/lower Xingu; Iriri; Teles Pires; Juruena; Tapajós; Jamanxim; Mamoré; Guaporé; Beni–Madre de Dios; middle–lower Madeira; Madeira Shield tributaries; Ucayali; Marañón–Nanay; Putumayo; Japurá; Negro; Branco; Trombetas; Amazon main channel. Fitzcarrald Arch records: Las Piedras (Craig et al., 2020).	Y — Long potamodromous movements associated with flood pulse. Documented distances include 500–700 km (upper Tocantins), 800–1,100 km (Araguaia & middle Tocantins), synthesis up to 100–1,500 km. Upstream reproductive migrations at onset of rains in Amazon/Caquetá; spawning areas near Andean foothills (e.g., Beni River).	Y — **VU** on Ecuador and Colombia Red Lists; regional studies note significant fishery pressure and catch declines in places.	Y — Shared multi-country stocks; priorities: coordinated landings/effort monitoring, telemetry/genetics for stock structure, harmonized seasonal protections and habitat safeguards.	Y — Transboundary migrations + unfavorable indicators + clear cooperation value.	Dagosta & Pinna 2019; Craig et al. 2020; Ribeiro et al. 1995; Alonso 1998; Barthem & Goulding 2007; Van Damme et al. 2011; Zapata & Usma 2013; García-Dávila et al. 2018; Miranda-Chumacero et al. 2020; Duponchelle et al. 2021; Aguirre et al. 2019; Mojica et al. 2012

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