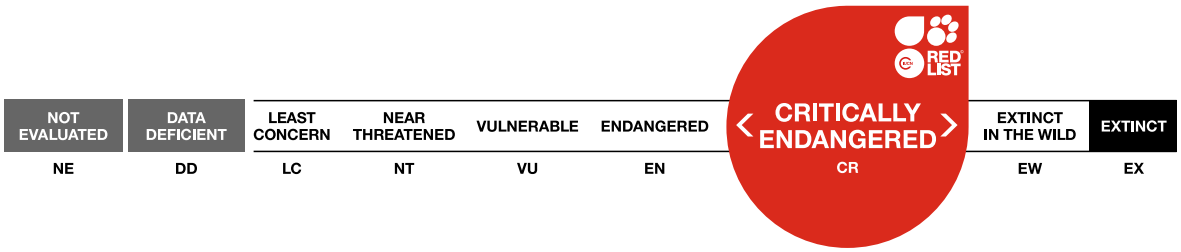
The IUCN Red List of Threatened Species™
ISSN 2307-8235 (online)
IUCN 2018: T5661A181089024
Scope(s): Global
Language: English

Crocodylus intermedius, Orinoco Crocodile

Errata version

Assessment by: Balaguera-Reina, S.A., Espinosa-Blanco, A., Antelo, R., Morales-Betancourt, M. & Seijas, A.



View on www.iucnredlist.org

Citation: Balaguera-Reina, S.A., Espinosa-Blanco, A., Antelo, R., Morales-Betancourt, M. & Seijas, A. 2018. *Crocodylus intermedius* (errata version published in 2020). *The IUCN Red List of Threatened Species* 2018: e.T5661A181089024. https://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T5661A181089024.en

Copyright: © 2020 International Union for Conservation of Nature and Natural Resources

Reproduction of this publication for educational or other non-commercial purposes is authorized without prior written permission from the copyright holder provided the source is fully acknowledged.

Reproduction of this publication for resale, reposting or other commercial purposes is prohibited without prior written permission from the copyright holder. For further details see Terms of Use.

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership. The IUCN Red List Partners are: Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.

If you see any errors or have any questions or suggestions on what is shown in this document, please provide us with feedback so that we can correct or extend the information provided.

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Reptilia	Crocodylia	Crocodylidae

Scientific Name: *Crocodylus intermedius* Graves, 1819

Common Name(s):

- English: Orinoco Crocodile
- French: Crocodile de l'Orénoque
- Spanish; Castilian: Caimán del Orinoco, Caimán llanero, Cocodrilo del Orinoco

Assessment Information

Red List Category & Criteria: Critically Endangered A2bcd; C2a(i) ver 3.1

Year Published: 2018

Date Assessed: October 19, 2017

Justification:

An inferred reduction in population size of more than 80% over three generations (75 years) due to species over-hunting in the early and mid 1900s meets the criterion A threshold for Critically Endangered. This threat is understood, but it is currently not ongoing due to national and international legislation blocking any trade of this species (CITES Appendix I). However continuing threats by persecution, habitat loss and the limited number of mature individuals occurring in protected areas constitute continuing concerns for this species. Estimations of mature population sizes were not completed across Orinoco Crocodile range before 1980. However, Medem (1981) estimated that between 1920 and 1950 a minimum of 254,000 skins from mature animals were exported. Mature population size estimates done in the 1980s in both Venezuela and Colombia report an overall mature population of ~550 individuals, 273 from Venezuela and 280 from Colombia. Current studies show a general reduction in these numbers in both Venezuela (Seijas *et al*. 2010) and Colombia (Lugo 1996), indicating that the situation for the species continues to decline. Lugo (1996) estimated an overall mature population size of 123 individuals in the Lipa, Cuiloto, Ele, Cravo Norte, Santo Domingo, Duda, Lozada, Alto Guayabero, Meta, and Vichada rivers. Currently, the population size is estimated at ~250 mature individuals across its range with the largest population harbouring ~40 mature animals in both Colombia (Ele, Lipa, Cravo Norte River System) and Venezuela (Cojedes River System and Capanaparo River). However, population size is not currently possible to be estimated in 17 out of the 34 areas reported with presence of the species (Balaguera-Reina *et al*. 2017).

Previously Published Red List Assessments

1996 – Critically Endangered (CR)
https://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T5661A11503444.en

1994 – Endangered (E)

1990 – Endangered (E)

© The IUCN Red List of Threatened Species: Crocodylus intermedius – published in 2018.
https://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T5661A181089024.en

1988 – Endangered (E)

1986 – Endangered (E)

1982 – Endangered (E)

Geographic Range

Range Description:

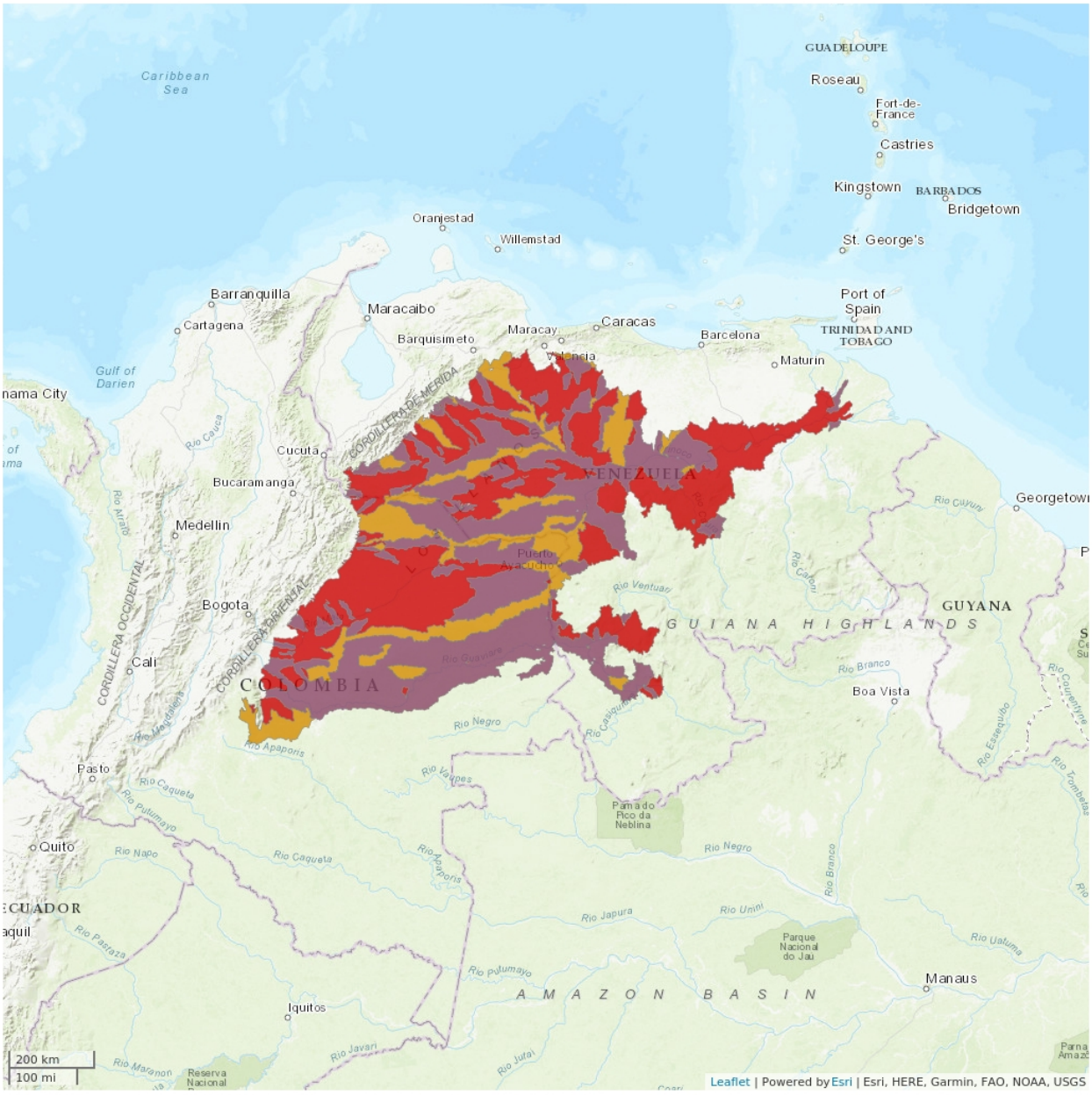
The Orinoco Crocodile (*Crocodylus intermedius*) is distributed in the northern part of South America, occurring in both Colombia and Venezuela (Medem 1983). This species has been described as restricted (endemic) to the Orinoco basin, occurring historically from the Lozada-Duda-Guayabero river system in central Colombia to the Orinoco delta in northeastern Venezuela from 0 to 350 m asl (Medem 1981, 1983; Seijas *et al*. 2010; Balaguera-Reina *et al*. 2017). *Crocodylus intermedius* has never been reported in the Amazon basin, with the Paragua and Jao rivers (Orinoco River tributaries) between San Fernando de Atabapo and La Mision de La Esmeralda being the historically southernmost distribution (Humboldt 1805 in Medem 1981, Gorzula and Mendoza 1993). Geographical barriers, especially mountain systems (such as the eastern Andes, the Merida Cordilleras in the west, the Venezuelan coastal range in the north, and the Guiana shield in the southeast), have also delimited the Orinoco crocodile distribution. Historical data suggests that it has never occurred in the Caroni River Basin (Castro and Gorzula 1986). To date, it is still not clear why the species has never colonized the Atabapo and Casiquiare rivers (likely waterways towards the Amazon basin), remaining an interesting question to be resolved (Medem 1981). However, indigenous communities have reported seeing *C. intermedius*, including breeding events, in the Casiquiare River (Antelo 2008), raising questions about the presence of the species in this area.

Currently, the Orinoco Crocodile can be found in a small portion of its historical distribution in large rivers such as Arauca, Bita, Cinaruco, Guaviare, Guayabero, Lozada, Meta, Vichada, Orinoco, Casanare, Cusiana, Ele, Lipa, Cravo Norte, Cravo Sur, Ariporo (Morales-Betancourt *et al*. 2015, Moreno-Arias *et al*. 2016, Antelo *et al*. 2016), Manacacias, Apure, Portuguesa, Tucupido, Cojedes, Manapire, Capanaparo, Ventuari, Caura, Zuata, and some of their tributaries (Gorzula and Mendoza 1993, Arteaga *et al*. 1996, Antelo 2008, Seijas 2011, Babarro per. comm). Recent studies have identified 34 areas across the Orinoco Crocodile range [16 in Colombia, 16 in Venezuela, and two covering both countries (Meta River - Lower basin and Arauca River), which are the remnants of a much larger distribution (Balaguera-Reina *et al*. 2017)].

Country Occurrence:

Native, Extant (resident): Colombia; Venezuela, Bolivarian Republic of

Distribution Map



Legend

- EXTANT (RESIDENT)
- POSSIBLY EXTANT (RESIDENT)
- EXTINCT

Compiled by:
Balaguera-Reina et al. 2020





The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

© The IUCN Red List of Threatened Species: Crocodylus intermedius – published in 2018.
https://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T5661A181089024.en

Population

Crocodylus intermedius inhabits a wide variety of aquatic-land areas within the Orinoco basin, with the highest population numbers being recorded in seasonal rivers from savanna ecosystems (Medem 1981, Seijas *et al*. 2010). Orinoco Crocodile population data have been recorded from 34 areas [16 in Venezuela, 16 in Colombia, and two covering both countries (Meta River - Lower basin and Arauca River); Balaguera-Reina *et al*. 2017].

Areas in Venezuela are: Guaritico and Macanillal System, Capanaparo River, Cojedes River System (Agua and Amarillo creeks, Cojedes-Sarare and Cojedes rivers), Manapire River System (Larga and Chigüichigüe lakes and Manapire River), Anaro River, Cinaruco River, Aguaro-Guariquito River, Camaguan Estero, Portuguesa River, Zuata River, Tucupido River System, Apure River, Ventuari River, and Orituco River.

Regarding Colombia, studies have been done in Ele, Lipa, Cravo Norte River System, Guayabero River, Tomo River - (Tuparro National Natural Park), Duda River, Lozada River, Tillava, Planas, Guarrojo, and Muco rivers system, Vichada River, Manacacias River, Iteviare and Guaviare rivers, Cinaruco River upper basing, Capanaparo River, Ariporo River, Guanapalo and Meta rivers system (La Hermosa and Picapico creeks), Cravo Sur River, Casanare River, Casanare River, and la Aurora Natural Reserve (Ariporo and Chire rivers).

Only 26 of these 34 areas (14 in Venezuela and 12 in Colombia) have at least two population surveys carried out in different years that allow analysis of current populations trends (Balaguera-Reina *et al*. 2017). Relative abundance values reported in Venezuela at these 14 localities ranged between 0 ind/km (Anaro River from 1990–1992 and 2000; Garavito 2003) and 10 ind/km (Laguna de Chigüichigüe-segment of the Manapire River, from 2008–2009; Arcila 2009). Some Orinoco Crocodile populations have increased in relative abundance through time with Laguna de Chigüichigüe having the highest population growth. In contrast, localities such as Caño Amarillo-Merecure (creek) have been reduced from 4.9 ind/km between 1991 and 1997 to 1.78 in 2009. Cojedes River has shown an oscillation through the last 20 years with peaks of 5.8 ind/km in 1997 and troughs of 0.2 ind/km in 2006 (Seijas *et al*. 2010, Espinosa-Blanco 2010). The last study published in 2007 shows a relative abundance value of 4.1 ind/km (Espinosa-Blanco and Seijas 2012). Caño Guaritico (creek) did not have any reported sightings between 1987 and 1988, but did between 1990 and 1994, 1998 and between 2002 and 2007 (Lugo-Rugeles 1998, Chavez 2000, Antelo 2008). Capanaparo River has faced a population decline of 63% between 2001 and 2011 (Moreno 2012).

Population data from Colombia had been collected using a variety of survey methods (i.e., diurnal or nocturnal counts, and/or aerial surveys), of which several did not report the actual distances surveyed (instead they reported number of individuals/sector or zone). Regardless this disparity, “of concern” data (where zero individuals were sighted) were reported from surveys carried out in La Hermosa and Picapico Creeks (1994 and 2010), Ariporo River (1994 and 1995), Cravo Sur River (1995 and 2010), and Tomo River (1995, 1996, and 1997; Lugo-Rugeles 1997, Castro *et al*. 2012). Other areas such as the Cravo Norte (1994–1995, 2000–2001, 2012), Casanare (1996, 2012), and the Orinoco (1994, 1995) Rivers, as well as the Guanapalo (2010) and Meta (1995, 1996, 1998, 2010, 2011, 2012) River System, have been studied over a 20-year span with relative abundances ranging from 0.0 to 0.81 ind/km (Lugo-Rugeles 1997, Castro *et al*. 2012, Barahona and Bonilla 1999, Ardila-Robayo *et al*. 2002, Rios and Trujillo 2004). The Lipa and Ele Rivers consistently had a low relative abundance value over a 15-year span (0.2

and 0.3 ind/km in 1995 and 2012; 0.3 ind/km in 1995 and 2001; 0.2 ind/km in 2012; Lugo-Rugeles 1997, Castro *et al*. 2012). However, Anzola and Antelo (2015) reported an increase in populations inhabiting the Lipa, Ele, and Cravo Norte River Systems over a 13 years-span based on nest surveys.

Mature population size estimates done in the 1980s in both Venezuela and Colombia report an overall mature population of ~550 individuals, 273 from Venezuela in the Cojedes (76 individuals), Capanaparo (78 individuals), Meta (67 individuals), Cinaruco (19 individuals), Portuguesa (12 individuals), Orinoco (five individuals), San Carlos (four individuals), Riecito (three individuals), and Tinaco and Guanare (two individuals each) Rivers (Godshalk 1978, 1982) and 280 from Colombia mainly in departments such as the Arauca (180 individuals), Casanare (49 individuals), Meta (14 individuals). and Vichada (37 individuals; Medem 1981). Current studies show a general reduction in these numbers in both Venezuela (Seijas *et al*. 2010, Espinosa-Blanco and Seijas 2012, Moreno 2012) and Colombia (Lugo-Rugeles 1996), indicating that the situation of the species is worse than previous reports. Lugo-Rugeles (1996) estimated an overall mature population size of 123 individuals in the Lipa, Cuiloto, Ele, Cravo Norte, Santo Domingo, Duda, Lozada, Alto Guayabero, Meta, and Vichada rivers. Historic estimations (before 1980) regarding mature population sizes were not completed across Orinoco Crocodile range. However, Medem (1981) estimated that between 1920 and 1950 a minimum of 254,000 skins from mature animals were exported.

Restocking processes have been highly uneven between Venezuela and Colombia. To date, Venezuela has released into the wild 9,812 individuals in consecutive years between 1990 and 2016 in five states (Apure, Guárico, Barinas, Cojedes, and Portuguesa), with a maximum of 763 individuals released during 2009 and a minimum of 40 during 1990 (Chavez 2002, Babarro 2014). In contrast, even though efforts at restocking in Colombia have not been as vigorous as in Venezuela, it is notable that starting in 2015 two institutions (The Palmarito Foundation and the National University of Colombia) have released a total of 57 individuals in three departments (Casanare, Vichada, and Meta; Antelo 2015, Antelo *et al*. 2016, Moreno-Arias *et al*. 2016).

Current Population Trend: Decreasing

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

The Orinoco Crocodile is one of the largest crocodylian species extant in the world (largest individual recorded 669 cm total length; Humboldt 1860 in Medem 1983). This species dwells a variety of habitats including rivers in tropical evergreen forest, piedmont streams in the foothills of the Andes, and seasonal rivers in savannas (Medem 1983). Females become mature at approximately 250 m total length (Antelo 2008), nesting in riverbanks between January and February (dry season) with hatchlings emerging around three months later, generally synchronized with the beginning of the wet season (Seijas *et al*. 2010). Eggs are laid in holes excavated by the female and clutch size range between 32 and 44 eggs, with a reported maximum of 66 eggs (Jiménez-Oráa *et al*. 2007; Navarro 2007). *Crocodylus intermedius* is reported to aestivate in isolated streams or pools in the dry season, digging burrows into the riverbanks (Medem 1981, Antelo 2008).

Systems: Terrestrial, Freshwater (=Inland waters)

Use and Trade

Orinoco Crocodile was heavily hunted in the early and mid 1900s mainly for its skin. Medem (1983)

reports a total of at least 254,000 skins from mature animals were extracted from five main areas in Colombia between 1920 and 1950. The species is currently protected by national and international laws that prohibit its use of any kind, with the exception of scientific research an zoo interchanges. However, low scale poaching is still reported in some rivers of Venezuela and Colombia mainly because fear or local consumption (meat and eggs).

Threats (see Appendix for additional information)

Prior threat from over exploitation is no longer significant. However, low levels of illegal harvest due to fear of crocodiles and for local consumption are reported. Continuing threats are habitat change, habitat fragmentation, and pollution due to riverside development and human occupancy.

Conservation Actions (see Appendix for additional information)

Conservation programs are ongoing in both Colombia and Venezuela since the 1990s, focused on restocking populations and understanding the ecology of the species to reduce conflict with human populations (Balaguera-Reina *et al*. 2017). In this regards, Venezuela has released a total of 10,122 individuals in consecutive years between 1990 and 2017 in five states (Apure, Guárico, Barinas, Cojedes, and Portuguesa), with a maximum of 763 individuals released during 2009 and a minimum of 40 during 1990 (Chávez 2002, Babarro 2014, Velasco per. comm). On the other hand, Colombia has released a total of 101 individuals since 2015 in three departments (Casanare, Vichada, and Meta; Antelo 2015, Antelo *et al*. 2016, Moreno-Arias *et al*. 2016). However, despite the number of population ecology studies and restocking programs developed during the last two decades in these two countries, reliable information about the status of populations in both Venezuela and Colombia is lacking (Espinosa-Blanco and Seijas 2012, Morales-Betancourt *et al*. 2015). New efforts to identify relevant areas where research projects are ongoing and populations information allow researchers to define the local status of the species (regional habitat priority/crocodile conservation unit RHP/CCU) as well as areas with low information and no research currently being done (regional research priority RRP) defined a total of 34 critical areas (16 in Colombia, 16 in Venezuela, and two covering both countries), 10 RHP/CCU (six from Venezuela and four from Colombia) and 24 RRP (10 from Venezuela, 12 from Colombia, and two in both countries; Balaguera-Reina *et al*. 2017). From these, Caño Guaritico (Creek) and the Capanaparo River in Venezuela and the Ele, Lipa, Cravo Norte River System and the Guayabero River in Colombia were defined as areas with the most optimal conditions for long-term preservation and maintenance of *Crocodylus intermedius* populations.

Crocodylus intermedius was listed in Appendix I of CITES at the convention inception and no international trade, legal or illegal, has been reported since.

Credits

Assessor(s): Balaguera-Reina, S.A., Espinosa-Blanco, A., Antelo, R., Morales-Betancourt, M. & Seijas, A.

Reviewer(s): Ross, J.P.

Contributor(s): Velasco, A., Babarro, R. & Hernandez, O.

Authority/Authorities: IUCN SSC Crocodile Specialist Group (crocodiles, alligators and caimans)

Bibliography

Antelo, R. 2008. Biología del cocodrilo o caimán del Orinoco en la Estación Biológica El Frío, Estado Apure (Venezuela). Universidad Autónoma de Madrid.

Antelo R. 2015. First Orinoco crocodile reintroduction in Colombia. *CSG Newsletter* 34(2): 18–19.

Antelo, R., Olaya-Velásquez, A., and Del Barco, V. 2016. *El caimán llanero (Crocodylus intermedius) Biología y Conservación*. Fundación Palmarito-Corporinqouia, Bogotá D.C.

Anzola, L.F., and Antelo, R. 2015. First data of natural recovery of any Orinoco crocodile Crocodylus intermedius: Evidence from nesting. *Herpetological Bulletin* 134: 10–14.

Arcila N. 2009. Estado poblacional del caimán del Orinoco (Crocodylus intermedius) en el río Manapire, Guárico, Venezuela. B.Sc. Thesis, UNELLEZ.

Ardila-Robayo, M.C., Barahona, S.L. and Bonilla, O.P. 2002. Actualización del status poblacional del Caimán Llanero (*Crocodylus intermedius*) en el Departamento de Arauca (Colombia). In: A. Velasco, G. Colomine, G. Villarroel and M. Quero (eds), Taller para la Conservación del Caimán del Orinoco (*Crocodylus intermedius*) en Colombia y Venezuela, pp. Pp. 57-67. Caracas.

Arteaga, A., Cañizales, I., Hernández, G., Cruz, M., De Luca, A., Muñoz, M., Ochoa, A., Seijas, A. Thorbjanarson, J., Velasco, A., Ellis, S.Y., and Seal, U. 1996. Taller de Análisis de viabilidad poblacional y del hábitat (PHVA) del caimán del Orinoco (Crocodylus intermedius). Grupo de especialistas de cocodrilos de Venezuela.

Babarro R. 2014. Balance de las liberaciones del caimán del Orinoco (Crocodylus intermedius) en Venezuela: 25 años de esfuerzo. *Bol. Acad. C. Fís., Mat. y Nat.* 74(2): 75–87.

Balaguera-Reina, S.A., Espinosa-Blanco A.S., Morales-Betancourt, M., Seijas, A.E., Lasso C.A., Antelo, R., and Densmore L.D. 2017. Conservation status and regional habitat priorities for the Orinoco crocodile: Past, present, and future. *PloS ONE* 12(2): e0172439. https://doi.org/10.1371/journal.pone.0172439.

Barahona, S.L. and Bonilla, O.P. 1999. Evaluación del status poblacional del caimán llanero (*Crocodylus intermedius* Graves, 1819) en un subareal de distribución en el Departamento de Arauca (Colombia). *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 23(Suplemento Especial): 445-451.

Castro, A., Merchán, M., Garcés, M., Cárdenas, M., and Gómez, F. 2012. New data on the conservation status of the Orinoco crocodile (Crocodylus intermedius) in Colombia. In: Anonymous (ed.), 21st Working Meeting of the IUCN-SSC Crocodile Specialist Group, pp. 65–73.

Castro, L. and S. Gorzula. 1986. The interrelations of the Caroni River Basin ecosystems and hydroelectric power projects. *Interciencia* 11: 272–277.

Chávez, C. 2000. Conservación de las poblaciones del caimán del Orinoco (*Crocodylus intermedius*) en Venezuela. Informe Profauna-Corpoven. MARN, Caracas.

Chávez C.A. 2002. Seguimiento de las liberaciones de Caimán del Orinoco (Crocodylus intermedius) en el Refugio de Fauna Silvestre “Caño Guaritico” y sus alrededores. Ministerio del Ambiente y de los Recursos Naturales. Dirección General de Fauna (División de Fauna-Apure), Caracas.

Espinosa-Blanco A.S. 2010. Colecta de huevos como estrategia de conservación del cocodrilo del Orinoco en el Sistema del Río Cojedes, Venezuela. M.Sc.Thesis, UNELLEZ.

Espinosa-Blanco A.S. and Seijas A.E. 2012 . Declinación poblacional del caimán del Orinoco (Crocodylus

intermedius) en dos sectores del Sistema del río Cojedes, Venezuela. *Ecotrópicos* 25: 22–35.

Garavito F. 2003. Evaluación del hábitat del río Anaro, estado Barinas, para la restauración poblacional del caimán del Orinoco (Crocodylus intermedius). M.Sc.Thesis, UNELLEZ.

Godshalk, R. 1978. El Caimán del Orinoco, *Crocodylus intermedius*, en los Llanos Occidentales Venezolanos con observaciones sobre su distribución en Venezuela y recomendaciones para su conservación. FUDENA, Caracas.

Godshalk, R. 1982. Status and conservation of *Crocodylus intermedius* in Venezuela. The 5th Working Meeting of the IUCNSSC Crocodile Specialist Group: Pp. 39-53 in Crocodiles. IUCN: Gland.

Gorzula, S. and P. Mendoza. 1993. Una evaluación del estado actual de la fauna silvestre en el estado Amazonas, Venezuela. Deutsche Gesellschaft Fur Technische Zusammenarbeit (GTZ), Millport.

IUCN. 2018. The IUCN Red List of Threatened Species. Version 2018-1. Available at: www.iucnredlist.org. (Accessed: 28 June 2018).

IUCN. 2020. The IUCN Red List of Threatened Species. Version 2020-3. Available at: www.iucnredlist.org. (Accessed: 10 December 2020).

Jiménez-Oraá, M. 2002. El caimán del Orinoco (*Crocodylus intermedius*) en los sectores Laguna larga y Chigüichigüe del río Manapire, Guárico, Venezuela. Manejo de Fauna Silvestre, Vicerrectorado de Producción Agrícola. UNELLEZ.

Jiménez-Oraá, M., Seijas, A.E., Jiménez-Oraá, M. and Heredia, H.J. 2007. Colecta de huevos como estrategia de conservación del caimán del Orinoco (*Crocodylus intermedius*) en el río Manapire, Guárico, Venezuela. *Biollania* Edición Especial(N° 8): 36-42.

Lugo, M. 1996. Avance en la investigación del estatus del caimán del Orinoco. *Crocodile Specialist Group Newsletter* 15(4): 14-16.

Lugo-Rugeles M. 1997. Programa para la conservación del caimán de Orinoco (Crocodylus intermedius) en Colombia. Universidad Nacional de Colombia.

Lugo-Rugeles M. 1998. Evaluación del programa de liberación del caimán del Orinoco (Crocodylus intermedius) en el refugio de fauna silvestre “caño Guaritico y alrededores” (Edo, Apure, Venezuela). M.Sc.Thesis, Universidad de los Llanos Ezequiel Zamora.

Medem, F. 1981. *Los Crocodylia de Sur América*. Vol. I. Los Crocodilia de Colômbia. Colciencias, Universidad Nacional de Colombia, Bogotá.

Medem, F. 1983. *Los Crocodylia de Sur América*. Vol. II. Los Crocodilia de Colômbia. Colciencias, Universidad Nacional de Colombia, Bogotá.

Morales-Betancourt, M.A., Lasso, C.A., Martínez, W., Ardila-Robayo, M.C, Bloor, P. 2015. Crocodylus intermedius. In: Morales-Betancourt ,M.A., Lasso, C.A., Páez, V.P., Bock, B.C. (ed.), *Libro rojo de reptiles de Colombia*, pp. 186–190. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (IAvH), Universidad de Antioquia, Bogotá.

Moreno, A. 2012. Estado poblacional, uso de hábitat, anidación y distribución espacial del caimán del Orinoco (Crocodylus intermedius) en el río Capanaparo, estado Apure, Venezuela. Biologia, Universidad Central de Venezuela. .

Moreno-Arias, R.A., Ardila-Robayo, M.C., Martínez, W., Suárez, R. 2016. Navigating with the Orinoco crocodile. *CSG Newsletter* 35(2): 14–15.

Navarro-Laurent, M. 2007. Estado poblacional y reproductivo del caimán del Orinoco (*Crocodylus intermedius*) en el río Cojedes. Universidad Simón Bolívar.

Ríos, M. and Trujillo, F. 2004. Censo preliminar de Crocodylia en los ríos Meta y Bita, Departamento del Vichada (Colombia). In: M.C. Diazgranados and F. Trujillo (eds), *Fauna Acuática en la Orinoquia Colombiana*, pp. Pp. 229-242. Instituto de Estudios Ambientales para el Desarrollo, Departamento de Ecología y Territorio (IDEADE-DET), Bogotá.

Seijas, A. E. 2011. *Los Crocodylia de Venezuela: Ecología y Conservación*. Academia de Ciencias Físicas, Matemáticas y Naturales, Caracas.

Seijas, A.E., Antelo, R., Thorbjarnarson, J.B., and Ardila Robayo, M.C. 2010. Orinoco Crocodile Crocodylus intermedius. In: Manolis, S.C., Stevenson, C. (ed.), *Crocodiles. Status Survey and Conservation Action Plan*, pp. 59-65. Crocodile Specialist Group, Darwin.

Citation

Balaguera-Reina, S.A., Espinosa-Blanco, A., Antelo, R., Morales-Betancourt, M. & Seijas, A. 2018. *Crocodylus intermedius* (errata version published in 2020). *The IUCN Red List of Threatened Species* 2018: e.T5661A181089024. https://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T5661A181089024.en

Disclaimer

To make use of this information, please check the Terms of Use.

External Resources

For Supplementary Material, and for Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.5. Forest - Subtropical/Tropical Dry	Passage	Marginal	-
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	Passage	Marginal	-
2. Savanna -> 2.1. Savanna - Dry	Resident	Suitable	Yes
2. Savanna -> 2.2. Savanna - Moist	Resident	Suitable	Yes
5. Wetlands (inland) -> 5.1. Wetlands (inland) - Permanent Rivers/Streams/Creeks (includes waterfalls)	Resident	Suitable	Yes
5. Wetlands (inland) -> 5.3. Wetlands (inland) - Shrub Dominated Wetlands	Resident	Suitable	Yes

Use and Trade

(http://www.iucnredlist.org/technical-documents/classification-schemes)

End Use	Local	National	International
Medicine - human & veterinary	Yes	No	No
Food - animal	Yes	No	No

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.1. Shifting agriculture	Ongoing	Unknown	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	Unknown	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.1. Intentional use: (subsistence/small scale) [harvest]	Ongoing	-	-	Low impact: 3
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		

© The IUCN Red List of Threatened Species: Crocodylus intermedius – published in 2018.
https://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T5661A181089024.en

5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.5. Persecution/control	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		

Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: Yes
Systematic monitoring scheme: No
In-place land/water protection
Conservation sites identified: Yes, over entire range
In-place species management
Successfully reintroduced or introduced benignly: Yes
Subject to ex-situ conservation: Yes
In-place education
Subject to any international management / trade controls: Yes

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action Needed
2. Land/water management -> 2.1. Site/area management
3. Species management -> 3.3. Species re-introduction -> 3.3.1. Reintroduction

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.4. Harvest, use & livelihoods
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 1927
Continuing decline in area of occupancy (AOO): Unknown
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 615914
Continuing decline in extent of occurrence (EOO): Unknown
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 34
Continuing decline in number of locations: No
Extreme fluctuations in the number of locations: No
Lower elevation limit (m): 0
Upper elevation limit (m): 350
Population
Number of mature individuals: 90-254,190
Continuing decline of mature individuals: Yes
Extreme fluctuations: No
Population severely fragmented: Yes
No. of subpopulations: 34
Continuing decline in subpopulations: No
Extreme fluctuations in subpopulations: No
All individuals in one subpopulation: No
No. of individuals in largest subpopulation: 40
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 25
Movement patterns: Not a Migrant
Congregatory: Congregatory (and dispersive)

© The IUCN Red List of Threatened Species: Crocodylus intermedius – published in 2018.
https://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T5661A181089024.en

Errata

Errata reason: This erratum version of the assessment was created to attach a corrected version of the distribution map. In the original published map, some polygons extended above the maximum elevation range for this species (350 m).

The IUCN Red List Partnership



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

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