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Mangroves of the Sahelian LC

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Abstract
Mangroves of the Sahelian is a regional ecosystem subgroup (level 4 unit of the IUCN Global Ecosystem Typology). It includes the marine ecoregions of Gulf of Guinea West and the Sahelian Upwelling. The Sahelian mangrove province had a mapped extent of 1883.0 km^2 in 2020, representing 1.3% of the global mangrove area. The biota is characterised by 6 species of true mangroves and many mangrove-associated taxa.

Although the province's mangroves provide several key ecosystem services they have undergone drastic reduction in their natural range. The mangroves of the Sahelian are threatened by logging for fuel and charcoal production, conversion for agriculture or aquaculture, and industrial, urban, and tourism development. They are also threatened by climate change, and especially sea-level rise.

Today, the net area change of the Sahelian mangroves has been 1.2% since 2007. If this trend continues an overall change of -5% is projected over the next 50 years. Furthermore, under a high sea level rise scenario (IPCC RCP8.5) ≈-22.4% of the Sahelian mangroves would be submerged by 2060. Moreover, 0.13% of the province's mangrove ecosystem is undergoing degradation, with the potential to increase to 0.38% within a 50-year period, based on a vegetation index decay analysis. Overall, the Sahelian mangrove ecosystem is assessed as **Least Concern** (**LC**).

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Keywords:
Mangroves; Red List of ecosystems; ecosystem collapse; threats, Least Concern.

Ecosystem classification:
MFT1.2 Intertidal forests and shrublands

Assessment's distribution:
Sahelian

Summary of the assessment:

Criterion	A	B	C	D	E	Overall
Subcriterion 1	**DD**	**LC**	**DD**	**DD**		
Subcriterion 2	**LC**	**LC**	**LC**	**LC**	**NE**	**LC**
Subcriterion 3	**DD**	**LC**	**DD**	**DD**		

CR: Critically Endangered, EN: Endangered, VU: Vulnerable, NT: Near Threatened, LC: Least Concern, DD Data Deficient, NE: Not Evaluated

Mangroves of The Sahelian LC

1. Ecosystem Classification

IUCN Global Ecosystem Typology (version 2.1, Keith *et al.* 2022):

Transitional Marine-Freshwater-Terrestrial realm

MFT1 Brackish tidal biome

MFT1.2 Intertidal forests and shrublands

MFT1.2_4_MP_16 Mangroves of the Sahelian

IUCN Habitats Classification Scheme (version 3.1, IUCN 2012):

1 Forest

1.7 Forest – Subtropical/tropical mangrove vegetation above high tide level

12 Marine Intertidal

12.7 Mangrove Submerged Roots

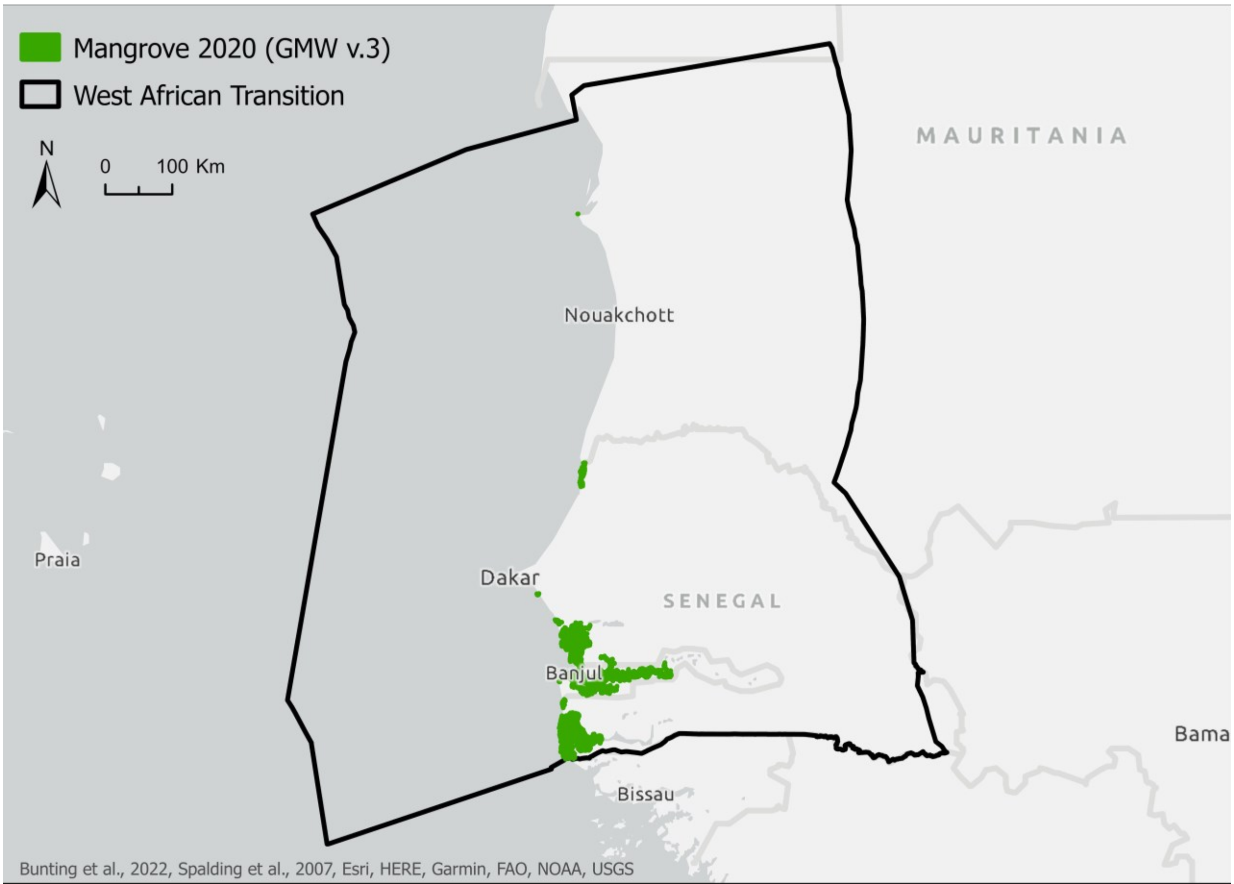

Figure 1. The mangroves of Sahelian.

2. Ecosystem Description

Spatial distribution

The Mangroves of Sahelian include intertidal forest and shrublands of the marine ecoregions of Gulf of Guinea West and the Sahelian Upwelling, that extend across Mauritania, Senegal and, The Gambia (figure 1)

As of 2020, the estimated extent of mangroves in this province was 1883.0 km^2, representing about 1.3 % of the global mangrove area. Since 2007, there has been a net area change of 1.2 % (Bunting *et al.,* 2022).

Within Mauritania, there are two main mangrove areas separated by a wide tract of exposed, sandy beaches: one located near Cape Timirist in the North, and a second area in the Senegal Delta. Within Senegal, North of the Gambia river, the Sine-Saloum Delta contains extensive mangroves stretching over approximately 650 km^2 (EC, 2003). Additional mangroves can be found on the Petite Côte and close to Somone and Joal. South of the Gambia river, dense mangrove belts form a band approximately 6-kilometre-wide along the northern bank of the Casamance estuary, between Ziguinchor and Tobor. This belt narrows further inland, ending near Devil's Island upstream of Sédhiou. On the southern bank, mangrove cover is less extensive, but two large stands are found: one between Kabrousse and Carabane with an average width of 10 kilometres, and a second one between Kabrousse and Carabane rivers, with an average width of 2 kilometres. In The Gambia, mangroves cover almost entirety the of the mouth of the Gambia River extending up to 160 km inland. The mangroves here display several formations, from well developed, tall fluvial formations found in the upstream range to estuarine formations close to the capital of Banjul. The most well-developed mangroves stands are typically found at the mouths of small tributaries, rather than along the lower main river channel.

Biotic components of the ecosystem (characteristic native biota)

The mangroves of the Sahelian province are typically characterized by five true mangrove plant species: *Avicennia germinans*, *Rhizophora mangle*, *Rhizophora racemosa*, *Laguncularia racemosa*, and *Acrostichum aureum*, all currently listed as Least Concern (LC) in the IUCN Red List of Threatened Species (Annex 1, IUCN, 2022). In Mauritania, only *A. germinans* and *R. racemosa* are present, while Senegal and The Gambia host the full complement. A naturally occurring hybrid, *Rhizophora harrisonii* (Cornejo, 2013), has also been reported at transitional zones in the region, though it is not part of the core species set and remains unassessed in the IUCN Red List.

Although floristic diversity is relatively limited, the mangrove ecosystems of this province support high faunal biodiversity. At least 148 species across major taxonomic groups including: Actinopterygii, Chondrichthyes, Aves, Mammalia, Reptilia, Bivalvia, Gastropoda, and Magnoliopsida, are associated with the Sahelian mangrove ecosystem in the IUCN Red List (Annex 2; IUCN, 2022). These include 4 Critically Endangered, 5 Endangered, 7 Vulnerable, and 6 Near Threatened species. Notable Critically Endangered species include the European eel (*Anguilla anguilla*), Hawksbill turtle (*Eretmochelys imbricata*), and the Smalltooth and Largetooth sawfish (*Pristis pectinata* and *P. pristis*). Endangered species include the King colobus (*Colobus polykomos*) and the Green turtle (*Chelonia mydas*), while Vulnerable species include the Atlantic goliath grouper (*Epinephelus itajara*), the African golden cat (*Caracal aurata*), and the West African manatee (*Trichechus senegalensis*).

Among these, several iconic species rely heavily on mangrove ecosystems for food, breeding, or shelter. The Atlantic humpback dolphin (*Sousa teuszii*), classified as Critically Endangered, is endemic to shallow nearshore habitats of Western Africa—including estuaries, deltas, and mangroves—and is highly susceptible to habitat degradation and fisheries bycatch. The Sahelian mangroves are also important for turtle species such as the Vulnerable African softshell turtle (*Trionyx triunguis*) and the Endangered Green turtle (*Chelonia mydas*), which use mangrove habitats for feeding and development (Fretey & Triplet, 2021). The Vulnerable West African manatee (*Trichechus senegalensis*) is often found in shallow estuarine zones with *R. racemosa*, *R. mangle*, and *R. harrisonii*, and is attracted to freshwater springs in The Gambia and Senegal (Powell, 1990). Despite legal protection, hunting for food and traditional medicine, as well as bycatch from fishing, are significant causes of the decline of manatee populations (Dodman et al., 2008).

Abiotic Components of the Ecosystem

There is significant variability in the abiotic environment of mangroves across the Sahelian province. Mauritania hosts the most arid mangroves on the Atlantic coast, with extremely low rainfall (averaging just 35 mm/year) and limited spatial extent. In contrast the Saloum Delta of Senegal may experience an annual rainfall of 450-902 mm/year (Navarro *et al*. 2019) and this climbs up to 1300 mm/year on average continuing south towards the Casamance region (McSweeney *et al.*, 2010).

In Senegal and the Gambia salinity is further regulated by freshwater seeps and springs (Powell, 1990). Some inland mangrove stands, notably near Tendaba, Elephant Island, and Dankunku Island, exhibit average salinity levels as low as just 10 ppt during the dry season.

In Senegal, particularly in the Casamance region south of The Gambia, mangrove flats typically occur on clay deposits surrounded by rivers, forming linear bands along the contours of ocean tidal channels such as Tobor, Niaguis, and Guide. In between these mangrove flats are large bare salt flats (or tannes; Conchedda, *et al.*, 2008) forming a complex and unique network of habitats (UNEP) which is heavily influenced by tidal parameters (Blesgraaf *et al.,* 2006).

Key processes and interactions

Mangroves act as structural engineers possessing traits such as pneumatophores, salt excretion glands, vivipary, and propagule buoyancy that promote survival and recruitment in poorly aerated, saline, mobile, and tidally inundated substrates (Tomlinson, 1986). These adaptations support efficient nutrient cycling, including high nitrogen-use efficiency and nutrient resorption.

Mangroves produce large amounts of detritus (e.g., leaves, twigs, and bark), which is either buried in waterlogged sediments, consumed by crabs and gastropods, or more commonly decomposed by fungi and bacteria (Adame *et al.,* 2024) thus mobilising carbon, and nutrients to higher trophic levels. These ecosystems also serve as major blue carbon sinks, incorporating organic matter into sediments and living biomass.

Within the Sahelian province, mangroves play a critical role in sediment trapping and organic matter accumulation, stabilizing shorelines and enriching local soils. These processes support the productivity of adjacent marine ecosystems by creating nursery grounds for juvenile fish and crustaceans (John & Lawson, 1990; Shumway, 1999). This nutrient enrichment underpins high fisheries productivity near mangrove areas

(UNEP-WCMC, 2006a) and sustains local economies through the harvesting of oysters (e.g., West African mangrove oyster, *Crassostrea tulipa*) and shrimp (e.g., Southern pink shrimp,*Farfantepenaeus notialis*).

Mangroves provide shoreline protection, atmospheric and climate regulation, water-processing, flood and erosion control, with a 200 m mangrove stand capable of absorbing 75% of wind generated wave energy and multiple resources (UNEP-WCMC, 2006a).

3. Ecosystem Threats and vulnerabilities

Main threatening process and pathways to degradation

Mangrove deforestation across the Sahelian arises from various factors, including aquaculture, urbanization, associated coastal development, over-harvesting, and pollution stemming from domestic, industrial, and agricultural land use. Within the Sahelian province, population growth has exacerbated these issues and is a primary cause for the deterioration of the mangroves across Mauritania, Senegal and The Gambia (Macintosh and Ashton, 2003). For example, in The Gambia, sand mining (UNEP) and in Mauritania, gold mining operations contribute significantly to pollution. Further, in Mauritania, the increase of offshore oil and gas prospecting, combined with rural population migration and overall growth in Nouadhibou is intensifying this threat in mangroves close to Cape Timirist.

Creation of a path through mangrove forest in Senegal, fragmenting the ecosystem
(Photo credit: Valère K. Salako).

In addition, the location of mangrove forests within intertidal areas renders them vulnerable to predicted sea-level rise as a result of climate change. Broader tidal ranges combined with higher salinity and periods of drought are threatening mangroves across much of the range (Reste, 1992; Ceesay *et al.* 2017). Tropical storms can damage mangrove forests through direct defoliation and destruction of trees, as well as through the mass mortality of animal communities within the ecosystems.

Overgrazing by camels and goats (especially in Mauritania and Senegal) contributes to soil degradation and hinders mangrove regeneration. Meanwhile, overexploitation of fisheries, including shellfish and crustaceans, further disrupts food webs (UNEP; Ramsar, 2000; Macintosh and Ashton, 2003; Camara, 2012). In The Gambia, the expansion of traditional fish smoking techniques, using mangrove wood, also poses a threat to mangroves (Diop et al. 2002)

Definition of the collapsed state of the ecosystem

Mangrove ecosystem collapse occurs when the tree cover of diagnostic true mangrove species dwindles to zero, indicating complete loss. These ecosystems exhibit remarkable dynamism, with species distributions adapting to local shifts in sediment distribution, tidal patterns, and variations in local inundation and salinity gradients. Disruptive processes can trigger shifts in this dynamism, potentially leading to ecosystem collapse. Ecosystem collapse may manifest through the following mechanisms: a) restricted recruitment and survival of diagnostic true mangroves due to adverse climatic conditions (e.g., low temperatures); b) alterations in rainfall, river inputs, waves, and tidal currents that destabilize and erode substrates, hindering recruitment and growth; c) shifts in rainfall patterns and tidal flushing altering salinity stress and nutrient loadings, impacting overall survival.

Threat Classification

IUCN Threat Classification (version 3.3, IUCN 2022) relevant to mangroves of the Sahelian province:

1. Residential & commercial development

- 1.1 Housing & urban areas
- 1.2 Commercial & industrial areas
- 1.3 Tourism & recreation areas

2. Agriculture & aquaculture

- 2.1 Annual & perennial non-timber crops
- 2.1.2 Small-holder farming
- 2.4 Marine & freshwater aquaculture
- 2.4.1 Subsistence/artisanal aquaculture

3. Energy production & mining

- 3.1 Oil & gas drilling
- 3.2 Mining & quarrying

4. Transportation & service corridors

- 4.1 Roads & railroads
- 4.2 Utility & service lines

5. Biological resource use

- 5.1 Hunting & collecting terrestrial animals
    - 5.1.1 Intentional use (species being assessed is the target)
- 5.3 Logging & wood harvesting
    - 5.3.1 Intentional use: subsistence/small scale (species being assessed is the target [harvest]
    - 5.3.2 Intentional use: large scale (species being assessed is the target) [harvest]

- 5.4 Fishing & harvesting aquatic resources
    - 5.4.1 Intentional use: subsistence/small scale (species being assessed is the target) [harvest]
    - 5.4.2 Intentional use: large scale (species being assessed is the target) [harvest]

9. Pollution

- 9.1 Domestic & urban waste water
    - 9.1.1 Sewage
    - 9.1.2 Run-off
- 9.2 Industrial & military effluents
    - 9.2.2 Seepage from mining
- 9.4 Garbage & solid waste

11. Climate change & severe weather

- 11.1 Habitat shifting & alteration
- 11.2 Droughts
- 11.4 Storms & flooding

12. Other options

- 12.1 Other threat

4. Ecosystem Assessment

Criterion A: Reduction in Geographic Distribution

Subcriterion A1 measures the trend in ecosystem extent during the last 50-year time window. Unfortunately, there is currently no common regional dataset that provides information for the entire target area in 1970. Therefore, the Sahelian mangrove ecosystem is classified as **Data Deficient (DD)** for this subcriterion.

Subcriterion A2 measures the change in ecosystem extent in any 50-year period, including from the present to the future: To estimate the Sahelian mangrove area from 2007 to 2020, we used the most recent version of the Global Mangrove Watch (GMW v3.0) spatial dataset. The mangrove area in the province (and in the corresponding countries) was corrected for both omission and commission errors, utilizing the equations in Bunting et al. (2022).

The Sahelian province mangroves show a net area change of 0.3% (1996-2020) based on the Global Mangrove Watch time series (Bunting *et al.,* 2022). This value reflects the offset between areas gained (+ 0.1%/year) and lost (- 0.1%/year). The largest decrease in mangrove area in this time series occurred between 2010 and 2016. Applying a linear regression to the area estimations between 2007 and 2020 (linear section of the time series) we obtained a rate of change of -0.09%/year (figure 2). Assuming this trend continues in the future, it is predicted that the extent of mangroves in the Sahelian province will change by -4. 9% from 2007 to 2057; by -6.1% from 2007 to 2070; but by -5% from 2020 to 2070. Given that these predicted changes in mangrove extent are below the 30% risk threshold, the Sahelian mangrove ecosystem is assessed as **Least Concern (LC)** under subcriterion A2.

Subcriterion A3 measures changes in mangrove area since 1750. Unfortunately, there are no reliable data on the mangrove extent for the entire province during this period, and therefore the Sahelian mangrove ecosystem is classified as **Data Deficient (DD)** for this subcriterion.

Overall, the ecosystem is assessed as **Least Concern (LC)** under criterion A.

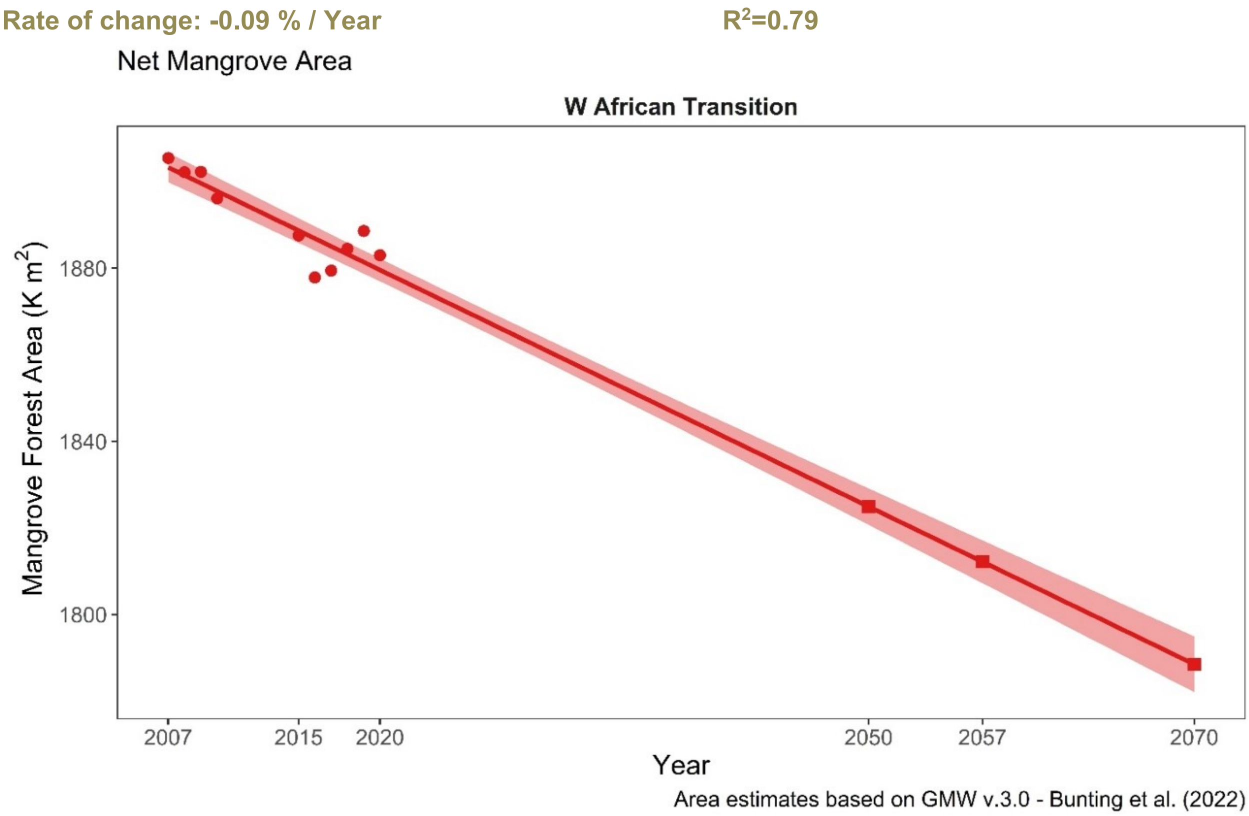

Figure 2. Projected extent of the Sahelian mangrove ecosystem to 2070. Circles represent the province mangrove area between 1996 and 2020 based on the GMW v3.0 dataset and equations in Bunting *et al.*, (2022). The solid line and shaded area are the linear regression and 95% confidence intervals. Squares show the Sahelian province predicted mangrove area for 2046 and 2070. It is important to note that an exponential model (proportional rate of decline) did not give a better fit to the data (R^2 = 0.0).

Criterion B: Restricted Geographic Distribution

Criterion B measures the risk of ecosystem collapse associated with restricted geographical distribution, based on standard metrics (Extent of Occurrence EOO, Area of Occupancy AOO, and Threat-defined locations). These parameters were calculated based on the 2020 Sahelian province mangrove extent (GMW v.3).

Province	Extent of Occurrence EOO (Km^2)	Area of Occupancy (AOO) >1%	Criterion B
The Sahelian	79147.8	111	**LC**

For 2020, AOO and EOO were measured as 154 grid cells 10 x 10 km and 79147.8 km^2, respectively (figure 3). Excluding from the AOO those grid cells that contain patches of mangrove forest that account for less than 1% of the grid cell area, (< 1 Km^2), the AOO is measured as **111, 10 x 10 km grid cells** (Figure 3, red grids).

Considering **the very high number of threat-defined-locations, there is no evidence of plausible catastrophic threats leading to the potential disappearance of mangroves over their entire extent in the**

short term. As a result, the Sahelian mangrove ecosystem is assessed as **Least Concern (LC)** under criterion B.

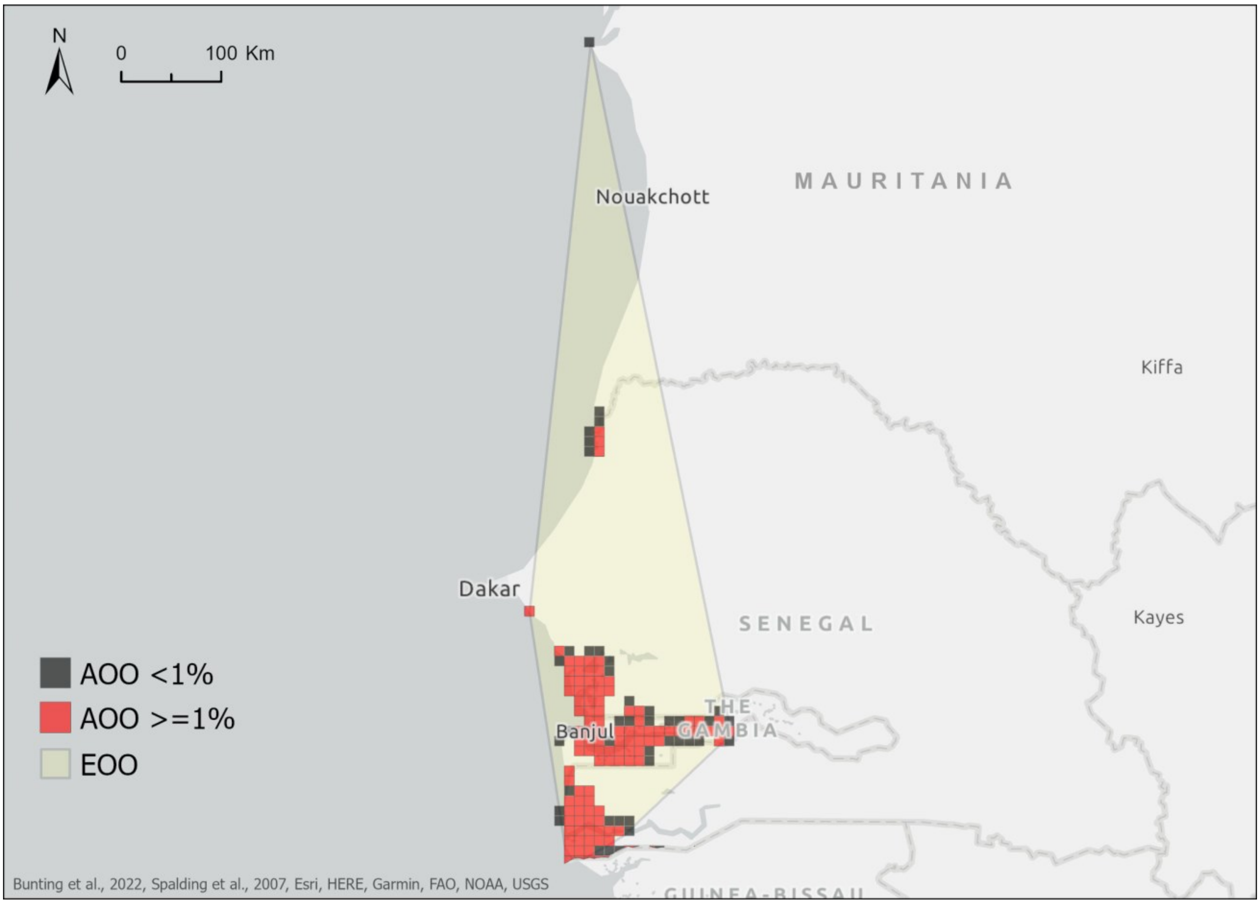

Figure 3. The Sahelian mangrove Extent Of Occurrence (EOO) and Area Of Occupancy (AOO) in 2020. Estimates based on 2020 GMW v3.0 spatial layer (Bunting *et al.*, 2022). The red 10 x 10 km grids (n=111.) are more than 1% covered by the ecosystem, and the black grids <1% (n= 43).

Criterion C: Environmental Degradation

Criterion C measures the environmental degradation of abiotic variables necessary to support the ecosystem.

Subcriterion C1 measures environmental degradation over the past 50 years: There are no reliable data to evaluate this subcriterion for the entire province, and therefore the Sahelian mangrove ecosystem is classified as **Data Deficient** (**DD**) for subcriterion C1.

Subcriterion C2 measures environmental degradation in the future, or over any 50-year period, including from the present. In this context, the impact of future sea level rise (SLR) on mangrove ecosystems was assessed by adopting the methodology presented by Schuerch *et al.* (2018). The published model was designed to calculate both absolute and relative change in the extent of wetland ecosystems under various regional SLR scenarios (i.e medium: RCP 4.5 and high: RCP 8.5), with consideration for sediment accretion. Therefore, Schuerch *et al*. (2018) model was applied to the Sahelian mangrove ecosystem boundary, using the spatial extent in 2010 (Giri et al. (2011) and assuming mangrove landward migration was not possible.

According to the results, under an extreme sea-level rise scenario of a 1.1 meter rise by 2100, the projected submerged mangrove area is ~ -22.4% by 2060, which remains below the 30% risk threshold. Therefore, considering that no mangrove recruitment can occur in a submerged system (100% relative severity), but that -22.4% of the ecosystem extent will be affected by SLR, the Sahelian mangrove ecosystem is assessed as **Least Concern** (**LC**) for subcriterion C2.

Subcriterion C3 measures change in abiotic variables since 1750. There is a lack of reliable historic data on environmental degradation covering the entire province, and therefore the Sahelian province is classified as Data Deficient (DD) for this subcriterion.

Overall, the ecosystem is assessed as **Least Concern** (**LC**) under criterion C.

Criterion D: Disruption of biotic processes or interactions

The global mangrove degradation map developed by Worthington and Spalding (2018) was used to assess the level of biotic degradation in the Sahelian province. This map is based on degradation metrics calculated from vegetation indices (NDVI, EVI, SAVI, NDMI) using Landsat time series (≈2000 and 2017). These indices represent vegetation greenness and moisture condition.

Mangrove degradation was calculated at a pixel scale (30m resolution), on areas intersecting with the 2017 mangrove extent map (GMW v2). Mangrove pixels were classified as degraded if two conditions were met: 1) at least 10 out of 12 degradation indices showed a decrease of more than 40% compared to the previous period; and 2) all twelve indices did not recover to within 20% of their pre-2000 value (detailed methods and data are available at: maps.oceanwealth.org/mangrove-restoration/). The decay in vegetation indices has been used to identify mangrove degradation and abrupt changes, including mangrove die-back events, clear-cutting, fire damage, and logging; as well as to track mangrove regeneration (Lovelock *et al.,* 2017; Santana *et al.,* 2018; Murray *et al.,* 2020; Aljahdali *et al.,* 2021; Lee *et al.,* 2021). However, it is important to consider that changes observed in the vegetation indices can also be influenced by data artifacts (Akbar *et al.,* 2020). Therefore, a relative severity level of more than 50%, but less than 80%, was assumed.

The results from this analysis show that over a period of 17 years (~2000 to 2017), 0.13% of the Sahelian mangrove area is classified as degraded, resulting in an average annual rate of degradation of 0.01%. Assuming this trend remains constant, +0.38% of the Sahelian mangrove area will be classified as degraded over a 50-year period. Since less than 30% of the ecosystem will meet the category thresholds for criterion D, the Sahelian mangrove province is assessed as **Least Concern (LC**) under subcriterion D2b.

No data were found to assess the disruption of biotic processes and degradation over the past 50 years (subcriterion D1) or since 1750 (subcriterion D3). Thus, both subcriteria are classified as **Data Deficient** (**DD**).

Overall, the Sahelian ecosystem remains **Least Concern** (**LC**) under criterion D.

Criterion E: Quantitative Risk

No model was used to quantitatively assess the risk of ecosystem collapse for this ecosystem; hence criterion E was **Not Evaluated** (**NE**).

5. Summary of the Assessment

CRITERION			
A. Reduction in Geographic Distribution	**A1** Past 50 years	**A2** Future or any 50y period	**A3** Historical (1750)
	DD	**LC**	**DD**
B. Restricted Geo. Distribution	**B1** Extent of Occurrence	**B2** Area of Occupancy	**B3** # Threat-defined Locations < 5?
	LC	**LC**	**LC**
C. Environmental Degradation	**C1** Past 50 years (1970)	**C2** Future or any 50y period	**C3** Historical (1750)
	DD	**LC**	**DD**
D. Disruption of biotic processes	**D1** Past 50 years (1970)	**D2** Future or Any 50y period	**D3** Historical (1750)
	DD	**LC**	**DD**
E. Quantitative Risk analysis	**NE**		
OVERALL RISK CATEGORY	**LC**		

DD = Data Deficient; LC = Least Concern; NE = Not Evaluated

Overall, the status of the Sahelian mangrove ecosystem is assessed as **Least Concern** (**LC**).

6. References

Adame MF, Cormier N, Taillardat P, Iram N, Rovai A et al. 2024. Deconstructing the mangrove carbon cycle: gains, transformation, and losses. Ecosphere 15, e4806. DOI: 10.1002/ecs2.4806

Akbar, M.R. Akbar, M R, P A A Arisanto, B A Sukirno, P H Merdeka, M M Priadhi, & S Zallesa. (2020). Mangrove vegetation health index analysis by implementing NDVI (normalized difference vegetation index) classification method on sentinel-2 image data case study: Segara Anakan, Kabupaten Cilacap. *IOP Conference Series: Earth and Environmental Science*, *584*(1), p. 012069.: https://doi.org/10.1088/1755-1315/584/1/012069.

Aljahdali, M. O., Munawar, S., & Khan, W. R. (2021). Monitoring Mangrove Forest Degradation and Regeneration: Landsat Time Series Analysis of Moisture and Vegetation Indices at Rabigh Lagoon, Red Sea. *Forests*, *12*(1), 52. https://doi.org/10.3390/f12010052

Ayissi, I., Segniagbeto, G.H. and Van Waerebeek, K. 2014. Rediscovery of Cameroon dolphin, the Gulf of Guinea Population of Sousa teuszii (Kükenthal, 1892). International Scholarly Research Notices. Biodiversity 819827. Clapham and Van Waerebeek 2007. DOI: 10.1155/2014/819827

Blancou, L. 1960. Destruction and Protection of the fauna of French Equatorial and of French West Africa. African *Wildlife 14*: 241-244. https://innspub.net/first-documentation-of-the-capture-and-release-of-a-manatee-in-the-rogolie-river-wetland-ntoum-gabon/

Blesgraaf, R., Geilvoet, A., van der Hout, C., Smoorenburg, M., & Sottewes, W. (2006). Salinity in the Casamance Estuary: Occurrence and Consequences: Delft University of Technology.

Bunting, P., Rosenqvist, A., Hilarides, L., Lucas, R. M., Thomas, N., Tadono, T., Worthington, T. A., Spalding, M.D., Murray, N. J., & Rebelo, L.-M. (2022). Global Mangrove Extent Change 1996–2020: Global Mangrove Watch Version 3.0. *Remote Sensing*, *14*(15), 3657. https://doi.org/10.3390/rs14153657

Cadenat, J. 1957. Observations de cétacés, siréniens, cheloniens et sauriens en 1955–1956. Bulletin IFAN 19(A): 1358–1383.

Camara, A.S. (2012). Protected Areas Resilient to Climate Change, PARCC West Africa. National Data Collection Report: UNEP-WCMC, Banjul, The Gambia, 42 p https://www.iucn.org/sites/default/files/import/downloads/parcc_cc_pas_communities_en.pdf

Ceesay, A., Dibi, H., Njie, E., Wolff, M., & Koné, T. (2017). Mangrove vegetation dynamics of the Tanbi wetland national park in the Gambia. Environment and Ecology Research, 5(2), 145-160. DOI: 10.13189/eer.2017.050209

Collins, T., Boumba, R., Thonio, J., Parnell, R., Vanleeuwe, H., Ngouessono, S., Rosenbaum, H. C. 2010. The Atlantic humpback dolphin (Sousa teuszii) in Gabon and Congo: cause for optimism or concern? Paper SC/62/SM9 presented to the IWC Scientific Committee, June 2010 (unpublished).

Collins, T., Stindberg, S., Boumba, Dilambaka, E., R., Thonio, J., Mouissou, C., Boukaka, R., Saffou, G.K., Buckland, L., Leeney, R., Antunes, R. Rosenbaum, H. C. 2013. Progress on Atlantic humpback dolphin conservation and research efforts in Congo and Gabon. Paper SC/65a/SM16rev presented to the IWC Scientific Committee, (unpublished).

Conchedda, G., Durieux, L., Mayaux, P. (2008). An object-based method for mapping and change analysis in mangrove ecosystems. *ISPRS J. Photogramm, 63*, 578–589. DOI: 10.1016/j.isprsjprs.2008.04.002

Cornejo, X. (2013). Lectotypification and a New Status for *Rhizophora X Harrisonii* (Rhizophoraceae), a Natural Hybrid Between *R. Mangle* and *R. Racemosa*. *Harvard Papers in Botany, 18*(1), 37. https://doi.org/10.3100/025.018.0106

Debrah, J.S., Ofori-Danson, P. K., Van Waerebeek, K. 2010. An update on the catch composition and other aspects of cetacean exploitation in Ghana. Paper SC/62/SM10 presented to the IWC Scientific Committee, June 2010 DOI: 10.13140/RG.2.1.4537.9928

Diop, E.S. et al. (2002). Mangroves of Africa. In: de Lacerda, L.D. (eds) Mangrove Ecosystems. Environmental Science. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-04713-2_2

Dodman, T., Diop, M.D. and Sarr. K. (eds). 2008. Conservation Strategy for the West African Manatee. UNEP, Nairobi, Kenya and Wetlands International Africa, Dakar, Senegal.

European Commission (EC). 2003. Senegal's mangrove forests: problems and prospects. Country Report. http://ec.europa.eu/comm/develo pment/body/publications/courier/ courier196/en/en_069.pdf

Fent, A., Bardou, R., Carney, J., & Cavanaugh, K. (2019). Transborder political ecology of mangroves in Senegal and The Gambia. *Global Environmental Change, 54*, 214-226. https://doi.org/10.1016/j.gloenvcha.2019.01.003

Fretey & Triplet, 2021 RAMSAR SITES AND MARINE TURTLES AN OVERVIEW. https://www.ramsar.org/sites/default/files/documents/library/tortues_marines_ramsar_dec21_e.pdf

Giri, C., Ochieng, E., Tieszen, L.L., Zhu, Z., Singh, A., Loveland, T., Masek, J. & Duke, N. (2011). Status and distribution of mangrove forests of the world using earth observation satellite data. *Glob. Ecol. Biogeogr. 20*(54–159). https://doi.org/10.1111/j.1466-8238.2010.00584.x

IUCN (2012). *IUCN Habitats classification scheme* (3.1). [Data set]. https://www.iucnredlist.org/resources/habitat-classification-scheme.

IUCN (2022). *The IUCN Red List of Threatened Species.* (Version 2022-2) [Data set]. https://www.iucnredlist.org

IUCN-CMP (2022). *Unified Classification of Direct Threats* (3.3) [Data set]. https://www.iucnredlist.org/resources/threat-classification-scheme.

Jefferson, T. A., Curry, B. E., Leatherwood, S., Powell, J. A. 1997. Dolphins and porpoises of West Africa: a review of records (Cetacea: Delphinidae, Phocoenidae). Mammalia 61: 87-108. DOI: 10.1515/mamm.1997.61.1.87

John, D.M., & Lawson, G.W. (1990). A review of mangrove and coastal ecosystems in West African and their possible relationships. *Estuarine, Coastal and Shelf Science, 31*(5): 505-518. https://doi.org/10.1016/0272-7714(90)90009-G

Keith, D. A., Ferrer-Paris, J. R., Nicholson, E., & Kingsford, R. T. (Eds.) (2020). *IUCN Global Ecosystem Typology 2.0: Descriptive profiles for biomes and ecosystem functional groups*. IUCN, International Union for Conservation of Nature. https://doi.org/10.2305/IUCN.CH.2020.13.en

Le Reste, L. (1992). Pluviométrie et captures de crevettes Penaeus notialis dans l'estuaire de la Casamance (Sénégal) entre 1962 et 1984. AQuat.Livine Resour., 5:233-48

Lee, V., Tobey, J., Castro, K., Crawford, B., Dia, I.M., Drammeh, O., & Tanvi, V. (2009). Marine Biodiversity Assets and Threats Assessment for WAMER. Gambia-Senegal Sustainable Fisheries Project, Banjul, The Gambia, 47 p. https://www.crc.uri.edu/download/Gambia_Biodiversity_Threats_Assessment.pdf

Lee, C. K. F., Duncan, C., Nicholson, E., Fatoyinbo, T. E., Lagomasino, D., Thomas, N., Worthington, T. A., & Murray, N. J. (2021). Mapping the Extent of Mangrove Ecosystem Degradation by Integrating an Ecological Conceptual Model with Satellite Data. *Remote Sensing*, *13*(11), 2047. https://doi.org/10.3390/rs13112047

Lovelock, C. E., Feller, I. C., Reef, R., Hickey, S., & Ball, M. C. (2017). Mangrove dieback during fluctuating sea levels. *Scientific Reports*, *7*(1), 1680. https://doi.org/10.1038/s41598-017-01927-6

Macintosh, D.J. and Ashton, E.C. (eds.) (2003). Report on the Africa Regional Workshop on the sustainable management of mangrove forest ecosystems. ISME/cenTER/CAW

Maigret, J. (1980). Donnees nouvelles sur l'ecologie du Sousa teuszii (Cetacea, Delphinidae) de la cote ouest africaine. Bulletin de l'Institut Francais d'Afrique Noire, 42A: 619-633.

Mcsweeney, C., New, M., Lizcano, G., Lu, X. (2010). The UNDP Climate Change Country Profiles: Improving the Accessibility of Observed and Projected Climate Information for Studies of Climate Change in Developing Countries. Bulletin of the American Meteorological Society. 91. 157-166. DOI: 10.1175/2009BAMS2826.1

Murray, N. J., Keith, D. A., Tizard, R., Duncan, A., Htut, W. T., Oo, A. H., Ya, K. Z., & Grantham, M. (2020). *Threatened ecosystems of Myanmar: An IUCN Red List of Ecosystems Assessment. Version 1*. Wildlife Conservation Society. https://doi.org/10.19121/2019.Report.37457

Navarro J, Algeet N, Fernández-Landa A, Esteban J, Rodríguez-Noriega P, Guillén-Climent M (2019) Integration of UAV, Sentinel-1, and Sentinel-2 data for mangrove plantation aboveground biomass monitoring in Senegal. Remote Sensing 11:77. https://doi.org/10.3390/rs11010077

Northridge S.P. (1984). World review of interactions between marine mammals and fisheries. *Fisheries Technical paper 251*. Food and Agriculture Organization of the United Nations, Rome. ISSN 0429-9345

Perrin, W. F., Van Waerebeek, K. (2007). The small-cetacean fauna of the west coast of Africa and Macaronesia: diversity and distribution. *In Western African talks on cetaceans and their habitats, UNEP/CMS-WATCH-Inf. 6*. Convention on the conservation of migratory species of wild animals, Adeje, Tenerife. www.cms.int/species/waam/watch1_docs/Inf06_Small_Cetacean_ Fauna_E. pdf.

Powell, J.A. (1990). Manatees in the Bijagos Archipelago: recommendations for their conservation. IUCN Wetland Programme. https://cites.org/sites/default/files/eng/cop/16/prop/E-CoP16-Prop-13.pdf

Powell, J.A. 1996. The distribution and biology of the West African manatee (Trichechus senegalensis Link, 1795). United Nations Environment Programme, Regional Seas Programme, Oceans and Coastal Areas, Nairobi, Kenya.

Ramsar (2000). La Convention Ramsar sur les zones humides. What's New @ Ramsar. Benin becomes the Convention's 119th Contracting Party. http://www.ramsar.org/ wn/w.n.benin_119th.htm

Ross, G. J. B, Heinsohn, G. E. and Cockcroft, V. G. (1994). Humpack dolphins Sousa chinensis (Osbeck, 1765), Sousa plumbea (G. Cuvier, 1829) and Sousa teuszii (Kukenthal, 1892). *In: S. H. Ridgway and R. Harrison (eds), Handbook of marine mammals, Volume 5*: The first book of dolphins, pp. 23-42. Academic Press. ISBN: 9780125885058

Santana, N. (2018). Fire Recurrence and Normalized Difference Vegetation Index (NDVI) Dynamics in Brazilian Savanna. *Fire*, *2*(1), 1. https://doi.org/10.3390/fire2010001

Schuerch, M., Spencer, T., Temmerman, S., Kirwan, M. L., Wolff, C., Lincke, D., McOwen, C. J., Pickering, M. D., Reef, R., Vafeidis, A. T., Hinkel, J., Nicholls, R. J., & Brown, S. (2018). Future response of global coastal wetlands to sea-level rise. *Nature*, *561*(7722), 231–234. https://doi.org/10.1038/s41586-018-0476-5

Shumway, C.A. (1999). Forgotten Waters: Freshwater and Marine Ecosystems in Africa.. Strategies for Biodiversity Conservation and Sustainable Development. Available at http://www.uneca.org/awich/FORGOTTE N%20WATERS FRESHWATER% 20AND.pdf

Spalding, M. D., Fox, H. E., Allen, G. R., Davidson, N., Ferdaña, Z. A., Finlayson, M., Halpern, B. S., Jorge, M. A., Lombana, A., Lourie, S. A., Martin, K. D., McManus, E., Molnar, J., Recchia, C. A., & Robertson, J. (2007). Marine Ecoregions of the World: A Bioregionalization of Coastal and Shelf Areas. *BioScience*, *57*(7), 573–583. https://doi.org/10.1641/B570707

Tomlinson, P.B. (1986). The Botany of Mangroves. Cambridge University Press, Cambridge, UK. ISBN 0-521-25567-8.

UNEP (2007). Mangroves of Western and Central Africa. UNEP-Regional Seas Programme/UNEP-WCMC. https://resources.unep-wcmc.org/products/WCMC_RT149

Weir, C. R., Van Waerebeek, K., Jefferson, T. A., & Collins, T. (2011). West Africa's Atlantic humpback dolphin (Sousa teuszii): endemic, enigmatic and soon endangered? *African Zoology 46*: 1-17. DOI: 10.3377/004.046.0101

Weir, C.R., & Collins, T. (2015). A Review of the Geographical Distribution and Habitat of the Atlantic Humpback Dolphin (Sousa teuszii). Advances in Marine Biology 72: 79-117. DOI: 10.1016/bs.amb.2015.08.001

Worthington, T.A., & Spalding, M. D. (2018). *Mangrove Restoration Potential: A global map highlighting a critical opportunity*. Apollo - University of Cambridge Repository. https://doi.org/10.17863/CAM.39153

Worthington, T. A., Zu Ermgassen, P. S. E., Friess, D. A., Krauss, K. W., Lovelock, C. E., Thorley, J., Tingey, R., Woodroffe, C. D., Bunting, P., Cormier, N., Lagomasino, D., Lucas, R., Murray, N. J., Sutherland, W. J., & Spalding, M.D. (2020). A global biophysical typology of mangroves and its relevance for ecosystem structure and deforestation. *Scientific Reports*, *10*(1), 14652. https://doi.org/10.1038/s41598-020-71194-5

Van Waerebeek, K., Barnett, L., Camara, A., Cham, A., Diallo, M., Djiba, A., Jallow, A., Ndiaye, E., Ould-Bilal, A.O.S. & Bamy, I.L. (2004). Distribution, status, and biology of the Atlantic humpback dolphin, Sousa teuszii (Kukenthal, 1892). *Aquatic Mammals 30*(1): 56-83. DOI: 10.1578/AM.30.1.2004.56

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7. Appendices

1. List of Key Mangrove Species

List of plant species considered true mangroves according to Red List of Threatened Species (RLTS) spatial data (IUCN, 2022). We included species whose range maps intersected with the boundary of the marine provinces/ecoregions described in the distribution section.

Class	Order	Family	Scientific name	RLTS category
Magnoliopsida	Lamiales	Acanthaceae	*Avicennia germinans*	LC
Magnoliopsida	Malpighiales	Rhizophoraceae	*Rhizophora mangle*	LC
Magnoliopsida	Malpighiales	Rhizophoraceae	*Rhizophora racemosa*	LC
Magnoliopsida	Myrtales	Combretaceae	*Laguncularia racemosa*	LC
Polypodiopsida	Polypodiales	Pteridaceae	*Acrostichum aureum*	LC

2. List of Associated Species

List of taxa that are associated with mangrove habitats in the Red List of Threatened Species (RLTS) database (IUCN, 2022). We included only species with entries for Habitat 1.7: “Forest - Subtropical/Tropical Mangrove Vegetation Above High Tide Level” or Habitat 12.7 for “Marine Intertidal - Mangrove Submerged Roots”, and with suitability recorded as “Suitable”, with “Major Importance” recorded as “Yes”, and any value of seasonality except “Passage”. The common names are those shown in the RLTS, except common names in brackets, which are from other sources.

Class	Order	Family	Scientific name	RLTS category	Common name
Actinopterygii	Anguilliformes	Anguillidae	*Anguilla anguilla*	DD	European eel
Actinopterygii	Anguilliformes	Ophichthidae	*Dalophis cephalopeltis*	LC	
Actinopterygii	Anguilliformes	Ophichthidae	*Myrophis plumbeus*	LC	Leaden worm eel
Actinopterygii	Cyprinodontiformes	Poeciliidae	*Aplocheilichthys spilauchen*	LC	Banded lampeye
Actinopterygii	Elopiformes	Elopidae	*Elops lacerta*	LC	
Actinopterygii	Gobiiformes	Eleotridae	*Bostrychus africanus*	LC	
Actinopterygii	Gobiiformes	Eleotridae	*Dormitator lebretonis*	LC	
Actinopterygii	Gobiiformes	Gobiidae	*Bathygobius soporator*	LC	Frillfin goby
Actinopterygii	Gobiiformes	Gobiidae	*Psammogobius biocellatus*	LC	Sleepy goby
Actinopterygii	Perciformes	Carangidae	*Caranx hippos*	LC	Crevalle jack
Actinopterygii	Perciformes	Carangidae	*Chloroscombrus chrysurus*	LC	Atlantic bumper
Actinopterygii	Perciformes	Cichlidae	*Sarotherodon melanotheron*	LC	Blackchin tilapia
Actinopterygii	Perciformes	Epinephelidae	*Epinephelus itajara*	VU	Atlantic goliath grouper
Actinopterygii	Perciformes	Haemulidae	*Plectorhinchus gibbosus*	LC	Brown sweetlips
Actinopterygii	Perciformes	Leiognathidae	*Gazza minuta*	LC	Toothed ponyfish

Class	Order	Family	Scientific name	RLTS category	Common name
Actinopterygii	Perciformes	Lutjanidae	*Lutjanus dentatus*	DD	
Actinopterygii	Perciformes	Sciaenidae	*Pseudotolithus elongatus*	LC	
Actinopterygii	Tetraodontiformes	Tetraodontidae	*Lagocephalus laevigatus*	LC	Smooth puffer
Aves	Accipitriformes	Accipitridae	*Accipiter toussenelii*	LC	Red-chested goshawk
Aves	Accipitriformes	Accipitridae	*Gypohierax angolensis*	LC	Palm-nut vulture
Aves	Accipitriformes	Accipitridae	*Haliaeetus vocifer*	LC	African fish-eagle
Aves	Accipitriformes	Pandionidae	*Pandion haliaetus*	LC	Osprey
Aves	Bucerotiformes	Bucerotidae	*Bycanistes fistulator*	LC	Western piping hornbill
Aves	Caprimulgiformes	Apodidae	*Apus affinis*	LC	Little swift
Aves	Caprimulgiformes	Apodidae	*Apus caffer*	LC	White-rumped swift
Aves	Charadriiformes	Burhinidae	*Burhinus senegalensis*	LC	Senegal thick-knee
Aves	Charadriiformes	Charadriidae	*Charadrius dubius*	LC	Little ringed plover
Aves	Charadriiformes	Scolopacidae	*Actitis hypoleucos*	LC	Common sandpiper
Aves	Charadriiformes	Scolopacidae	*Numenius arquata*	NT	Eurasian curlew
Aves	Charadriiformes	Scolopacidae	*Numenius phaeopus*	LC	Whimbrel
Aves	Charadriiformes	Scolopacidae	*Tringa nebularia*	LC	Common greenshank
Aves	Ciconiiformes	Ciconiidae	*Ciconia microscelis*	LC	African woollyneck
Aves	Columbiformes	Columbidae	*Streptopelia semitorquata*	LC	Red-eyed dove
Aves	Columbiformes	Columbidae	*Turtur afer*	LC	Blue-spotted wood-dove
Aves	Coraciiformes	Alcedinidae	*Alcedo quadribrachys*	LC	Shining-blue kingfisher
Aves	Coraciiformes	Alcedinidae	*Ceryle rudis*	LC	Pied kingfisher
Aves	Coraciiformes	Alcedinidae	*Corythornis cristatus*	LC	Malachite kingfisher
Aves	Coraciiformes	Alcedinidae	*Halcyon malimbica*	LC	Blue-breasted kingfisher
Aves	Coraciiformes	Alcedinidae	*Megaceryle maxima*	LC	Giant kingfisher
Aves	Coraciiformes	Coraciidae	*Eurystomus glaucurus*	LC	Broad-billed roller
Aves	Coraciiformes	Meropidae	*Merops nubicus*	LC	Northern carmine bee-eater

Class	Order	Family	Scientific name	RLTS category	Common name
Aves	Coraciiformes	Meropidae	*Merops persicus*	LC	Blue-cheeked bee-eater
Aves	Gruiformes	Heliornithidae	*Podica senegalensis*	LC	African finfoot
Aves	Passeriformes	Cisticolidae	*Apalis flavida*	LC	Yellow-breasted apalis
Aves	Passeriformes	Cisticolidae	*Camaroptera brachyura*	LC	Bleating camaropter a
Aves	Passeriformes	Cisticolidae	*Eremomela pusilla*	LC	Senegal eremomela
Aves	Passeriformes	Cisticolidae	*Hypergerus atriceps*	LC	Oriole warbler
Aves	Passeriformes	Cisticolidae	*Prinia subflava*	LC	Tawny-flanked prinia
Aves	Passeriformes	Estrildidae	*Nigrita bicolor*	LC	Chestnut-breasted nigrita
Aves	Passeriformes	Hirundinidae	*Cecropis abyssinica*	LC	Lesser striped swallow
Aves	Passeriformes	Macrosphenidae	*Sylvietta brachyura*	LC	Northern crombec
Aves	Passeriformes	Malaconotidae	*Dryoscopus gambensis*	LC	Northern puffback
Aves	Passeriformes	Malaconotidae	*Laniarius barbarus*	LC	Yellow-crowned gonolek
Aves	Passeriformes	Monarchidae	*Terpsiphone rufiventer*	LC	Red-bellied paradise-flycatcher
Aves	Passeriformes	Muscicapidae	*Cossypha niveicapilla*	LC	Snowy-crowned robin-chat
Aves	Passeriformes	Nectariniidae	*Anthreptes gabonicus*	LC	Mouse-brown sunbird
Aves	Passeriformes	Nectariniidae	*Anthreptes longuemarei*	LC	Western violet-backed sunbird
Aves	Passeriformes	Nectariniidae	*Cinnyris chloropygius*	LC	Olive-bellied sunbird
Aves	Passeriformes	Nectariniidae	*Cinnyris cupreus*	LC	Copper sunbird
Aves	Passeriformes	Nectariniidae	*Cinnyris pulchellus*	LC	Beautiful sunbird
Aves	Passeriformes	Nectariniidae	*Cinnyris venustus*	LC	Variable sunbird
Aves	Passeriformes	Nectariniidae	*Cyanomitra olivacea*	LC	Olive sunbird
Aves	Passeriformes	Nectariniidae	*Cyanomitra verticalis*	LC	Green-headed sunbird

Class	Order	Family	Scientific name	RLTS category	Common name
Aves	Passeriformes	Phylloscopidae	*Phylloscopus collybita*	LC	Common chiffchaff
Aves	Passeriformes	Phylloscopidae	*Phylloscopus trochilus*	LC	Willow warbler
Aves	Passeriformes	Platysteiridae	*Platysteira cyanea*	LC	Brown-throated wattle-eye
Aves	Passeriformes	Ploceidae	*Ploceus brachypterus*	LC	Olive-naped weaver
Aves	Passeriformes	Pycnonotidae	*Eurillas virens*	LC	Little greenbul
Aves	Passeriformes	Stenostiridae	*Elminia longicauda*	LC	African blue-flycatcher
Aves	Passeriformes	Sturnidae	*Lamprotornis splendidus*	LC	Splendid starling
Aves	Passeriformes	Sylviidae	*Sylvia atricapilla*	LC	Eurasian blackcap
Aves	Pelecaniformes	Ardeidae	*Ardea brachyrhyncha*	LC	Yellow-billed egret
Aves	Pelecaniformes	Ardeidae	*Ardea cinerea*	LC	Grey heron
Aves	Pelecaniformes	Ardeidae	*Ardea goliath*	LC	Goliath heron
Aves	Pelecaniformes	Ardeidae	*Ardea purpurea*	LC	Purple heron
Aves	Pelecaniformes	Ardeidae	*Butorides striata*	LC	Green-backed heron
Aves	Pelecaniformes	Ardeidae	*Calherodius leuconotus*	LC	White-backed night-heron
Aves	Pelecaniformes	Ardeidae	*Egretta ardesiaca*	LC	Black heron
Aves	Pelecaniformes	Ardeidae	*Egretta garzetta*	LC	Little egret
Aves	Pelecaniformes	Ardeidae	*Egretta gularis*	LC	Western reef-egret
Aves	Pelecaniformes	Ardeidae	*Ixobrychus minutus*	LC	Common little bittern
Aves	Pelecaniformes	Ardeidae	*Ixobrychus sturmii*	LC	Dwarf bittern
Aves	Pelecaniformes	Ardeidae	*Nycticorax nycticorax*	LC	Black-crowned night-heron
Aves	Pelecaniformes	Ardeidae	*Tigriornis leucolopha*	LC	White-crested tiger-heron
Aves	Pelecaniformes	Pelecanidae	*Pelecanus rufescens*	LC	Pink-backed pelican
Aves	Pelecaniformes	Threskiornithidae	*Bostrychia hagedash*	LC	Hadada ibis
Aves	Pelecaniformes	Threskiornithidae	*Platalea leucorodia*	LC	Eurasian spoonbill
Aves	Pelecaniformes	Threskiornithidae	*Threskiornis aethiopicus*	LC	African sacred ibis
Aves	Piciformes	Lybiidae	*Pogoniulus atroflavus*	LC	Red-rumped tinkerbird

Class	Order	Family	Scientific name	RLTS category	Common name
Aves	Piciformes	Picidae	*Campethera maculosa*	LC	Little green woodpecker
Aves	Piciformes	Picidae	*Dendropicos fuscescens*	LC	Cardinal woodpecker
Aves	Piciformes	Picidae	*Dendropicos goertae*	LC	Grey woodpecker
Aves	Piciformes	Picidae	*Pardipicus nivosus*	LC	Buff-spotted woodpecker
Aves	Psittaciformes	Psittacidae	*Alexandrinus krameri*	LC	Rose-ringed parakeet
Aves	Psittaciformes	Psittacidae	*Poicephalus fuscicollis*	LC	Brown-necked parrot
Aves	Strigiformes	Strigidae	*Otus senegalensis*	LC	African scops-owl
Aves	Suliformes	Anhingidae	*Anhinga rufa*	LC	African darter
Aves	Suliformes	Fregatidae	*Fregata magnificens*	LC	Magnificent frigatebird
Aves	Suliformes	Phalacrocoracidae	*Microcarbo africanus*	LC	Long-tailed cormorant
Bivalvia	Ostreida	Ostreidae	*Crassostrea tulipa*	LC	
Chondrichthyes	Carcharhiniformes	Carcharhinidae	*Negaprion brevirostris*	VU	Lemon shark
Chondrichthyes	Rhinopristiformes	Pristidae	*Pristis pectinata*	CR	Smalltooth sawfish
Chondrichthyes	Rhinopristiformes	Pristidae	*Pristis pristis*	CR	Largetooth sawfish
Gastropoda	Cycloneritida	Neritidae	*Vitta adansoniana*	LC	
Gastropoda	Cycloneritida	Neritidae	*Vitta rubricata*	NT	
Gastropoda	Ellobiida	Ellobiidae	*Melampus liberianus*	LC	
Gastropoda	Littorinimorpha	Littorinidae	*Littoraria angulifera*	LC	Mangrove periwinkle
Gastropoda	Neogastropoda	Muricidae	*Thais nodosa*	LC	
Gastropoda	Sorbeoconcha	Hemisinidae	*Pachymelania aurita*	LC	
Gastropoda	Sorbeoconcha	Potamididae	*Tympanotonos fuscatus*	LC	
Liliopsida	Alismatales	Araceae	*Lasimorpha senegalensis*	LC	Swamp arum
Liliopsida	Alismatales	Cymodoceaceae	*Halodule wrightii*	LC	
Liliopsida	Poales	Poaceae	*Echinochloa colona*	LC	
Liliopsida	Poales	Xyridaceae	*Xyris anceps*	LC	
Liliopsida	Zingiberales	Zingiberaceae	*Aframomum rostratum*	LC	
Magnoliopsida	Ericales	Ebenaceae	*Diospyros heudelotii*	LC	
Magnoliopsida	Fabales	Fabaceae	*Dalbergia ecastaphyllum*	LC	
Magnoliopsida	Fabales	Fabaceae	*Guibourtia copallifera*	VU	Kobo tree

Class	Order	Family	Scientific name	RLTS category	Common name
Magnoliopsida	Gentianales	Rubiaceae	*Psychotria bidentata*	LC	
Magnoliopsida	Malvales	Malvaceae	*Hibiscus sterculiifolius*	LC	
Magnoliopsida	Malvales	Malvaceae	*Hibiscus tiliaceus*	LC	Coast cottonwood
Magnoliopsida	Malvales	Malvaceae	*Thespesia populnea*	LC	Portia tree
Magnoliopsida	Myrtales	Combretaceae	*Conocarpus erectus*	LC	Silver-leaved buttonwood
Mammalia	Carnivora	Felidae	*Caracal aurata*	VU	African golden cat
Mammalia	Carnivora	Mustelidae	*Aonyx capensis*	NT	African clawless otter
Mammalia	Chiroptera	Pteropodidae	*Eidolon helvum*	NT	African straw-coloured fruit-bat
Mammalia	Chiroptera	Pteropodidae	*Epomops buettikoferi*	LC	Buettikofer's epauletted fruit bat
Mammalia	Chiroptera	Pteropodidae	*Rousettus aegyptiacus*	LC	Egyptian fruit bat
Mammalia	Primates	Cercopithecidae	*Cercocebus atys*	VU	Sooty mangabey
Mammalia	Primates	Cercopithecidae	*Chlorocebus sabaeus*	LC	Green monkey
Mammalia	Primates	Cercopithecidae	*Colobus polykomos*	EN	King colobus
Mammalia	Rodentia	Muridae	*Rattus rattus*	LC	House rat
Mammalia	Rodentia	Sciuridae	*Heliosciurus rufobrachium*	LC	Red-legged sun squirrel
Mammalia	Sirenia	Trichechidae	*Trichechus senegalensis*	VU	African manatee
Reptilia	Squamata	Colubridae	*Crotaphopeltis hotamboeia*	LC	Red-lipped snake
Reptilia	Squamata	Colubridae	*Hapsidophrys smaragdinus*	LC	Emerald snake
Reptilia	Squamata	Colubridae	*Toxicodryas blandingii*	LC	Blandings tree snake
Reptilia	Squamata	Elapidae	*Dendroaspis viridis*	LC	Western green mamba
Reptilia	Squamata	Grayiidae	*Grayia smithii*	LC	Smith's african water snake
Reptilia	Squamata	Lamprophiidae	*Boaedon lineatus*	LC	Striped house snake
Reptilia	Squamata	Natricidae	*Natriciteres olivacea*	LC	Olive marsh snake
Reptilia	Squamata	Psammophiidae	*Psammophis phillipsi*	LC	Olive grass racer
Reptilia	Squamata	Pythonidae	*Python regius*	NT	Ball python

Class	Order	Family	Scientific name	RLTS category	Common name
Reptilia	Squamata	Pythonidae	*Python sebae*	NT	Central african rock python
Reptilia	Squamata	Varanidae	*Varanus niloticus*	LC	Nile monitor
Reptilia	Squamata	Viperidae	*Bitis arietans*	LC	Puff adder
Reptilia	Testudines	Cheloniidae	*Eretmochelys imbricata*	CR	Hawksbill turtle
Reptilia	Testudines	Trionychidae	*Trionyx triunguis*	VU	African softshell turtle