ANNEX 2

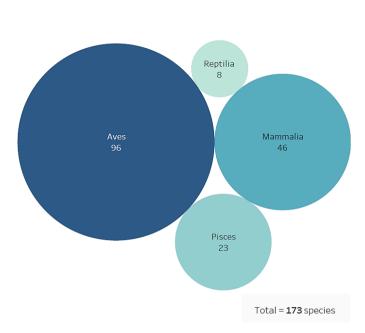
PRELIMINARY ANALYSIS OF IUCN RED DATA LIST INFORMATION ON SPECIES LISTED ON, AND COVERED BY CMS APPENDICES

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APPENDIX I

Appendix I listed species by taxonomic group



CMS Appendix I includes 173 taxa at the species or sub-species levels, of which 46 mammals, 96 birds, 8 reptiles and 23 fishes. (Fig. 1)

Fig. 1 Species and subspecies listed on Appendix I by broad taxonomic category

Conservation status

IUCN Red List categories have been selected from the assessments of the global population of listed taxa, they do not consider the level of geographic population as indicated in Appendix I for some species. Of the species listed in Appendix I (Fig. 2), 38 (22%) are assessed as 'Critically Endangered'; 47 (27%) as 'Endangered'; 51 (29%) as 'Vulnerable'; 13 (8%) as 'Near Threatened'. Hence a total of 149 species, i.e. ca. 86% of all migratory species in Appendix I, can be considered as being of significant global concern. Of the remaining 24 species, 16 (9%) are assessed as 'Least Concern'; 2 (1%) as 'Data Deficient'; one (<1%) as 'Extinct in the wild'. For 5 species (3%) no assessment is available in the Red List database and are classified in this analysis as 'Species not assessed'.

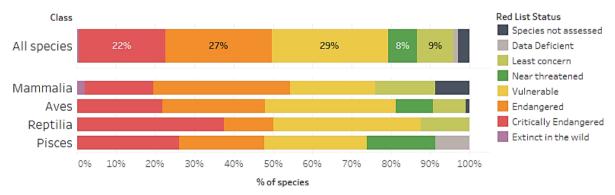


Fig. 2 Percentage of species listed on Appendix I in IUCN Red List Categories

According to the CMS Guidelines for assessment of Appendix I and II listing proposals, a taxon assessed as 'Extinct in the Wild', 'Critically Endangered', or 'Endangered' using the IUCN Red List criteria is eligible for consideration for listing in Appendix I, recognizing that CMS Appendix I species are broadly defined as 'endangered' (Fig. 3). Of the species currently listed on Appendix I, 86 (50%) meet the current criteria for listing on the Appendix.



Fig. 3 Percentage of species listed in Appendix I meeting the <u>criteria</u> for listing defined in Res.11.33 (Rev.COP12)

Population Trends

Population trends categories have been selected from the assessments of the global population of listed taxa, they do not consider the level of geographic population as indicated in Appendix I for some species. The current population trend for 128 species (74%) listed on Appendix I is 'Decreasing' (Fig. 4); for 14 species (8%) is 'Increasing'; for 9 species (5%) is 'Stable'; for 15 species (9%) is 'Unknown', for 2 species (1%) is 'Unspecified'. For 5 species (3%) no information on population trends were found in the Red List database and are classified in this analysis as 'Species not assessed'.

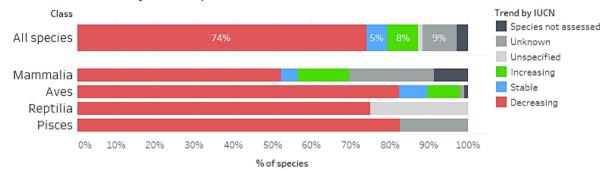


Fig. 4 Population trend of species listed in Appendix I

Main threats affecting species listed on Appendix I

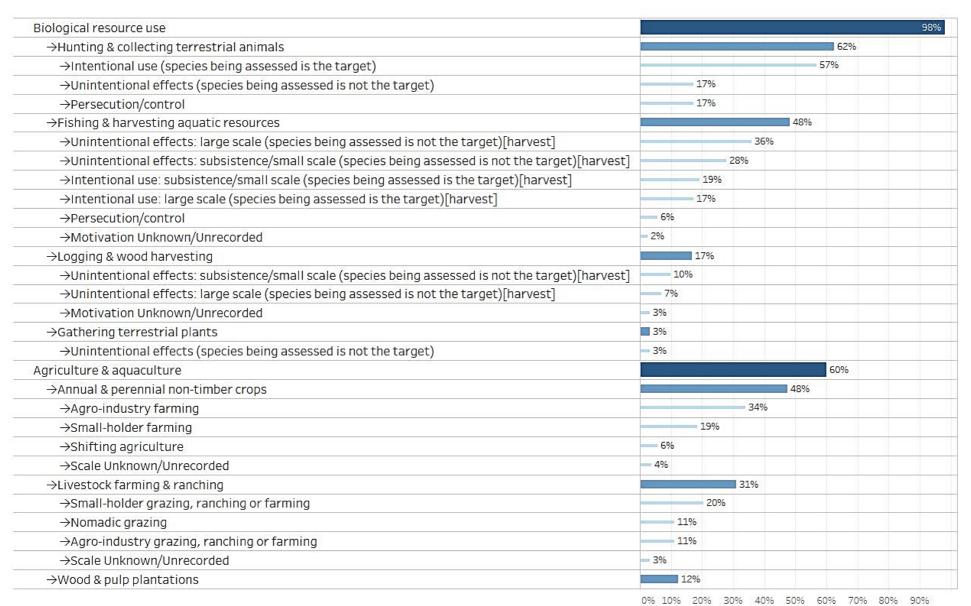
Threats as categorized and defined by the IUCN – CMP Unified Classification of Direct Threats have been extracted from Red List Assessments for Appendix I listed species whenever available¹. All three levels defined by the IUCN hierarchical classification scheme have been considered. A total of 162 species had information about threats available. Threat categories have been extracted from the assessments of the global population of listed taxa, they do not consider the level of geographic population as indicated in Appendix I for some species.

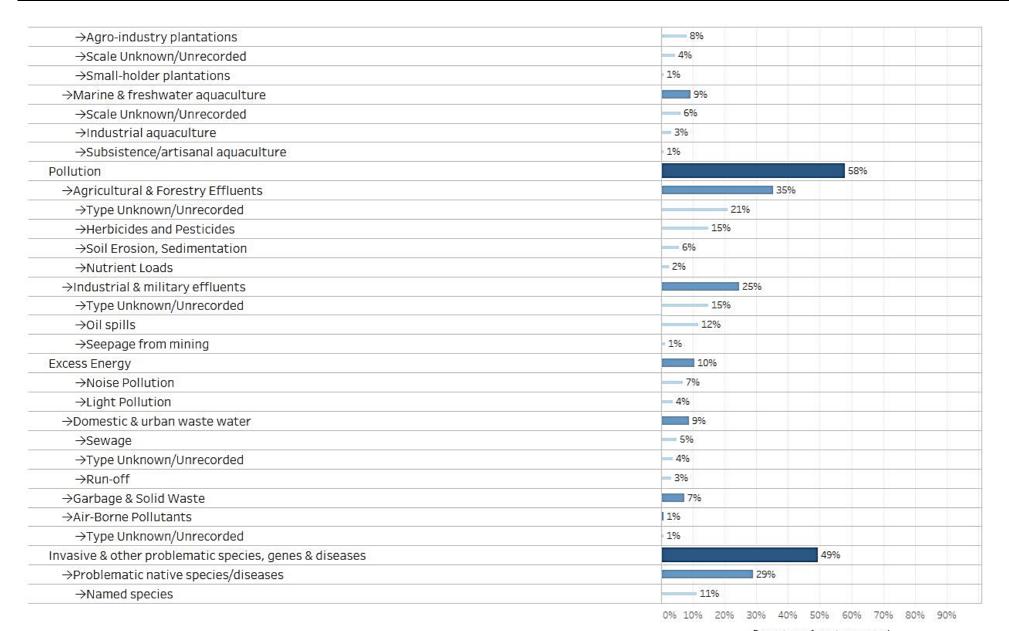
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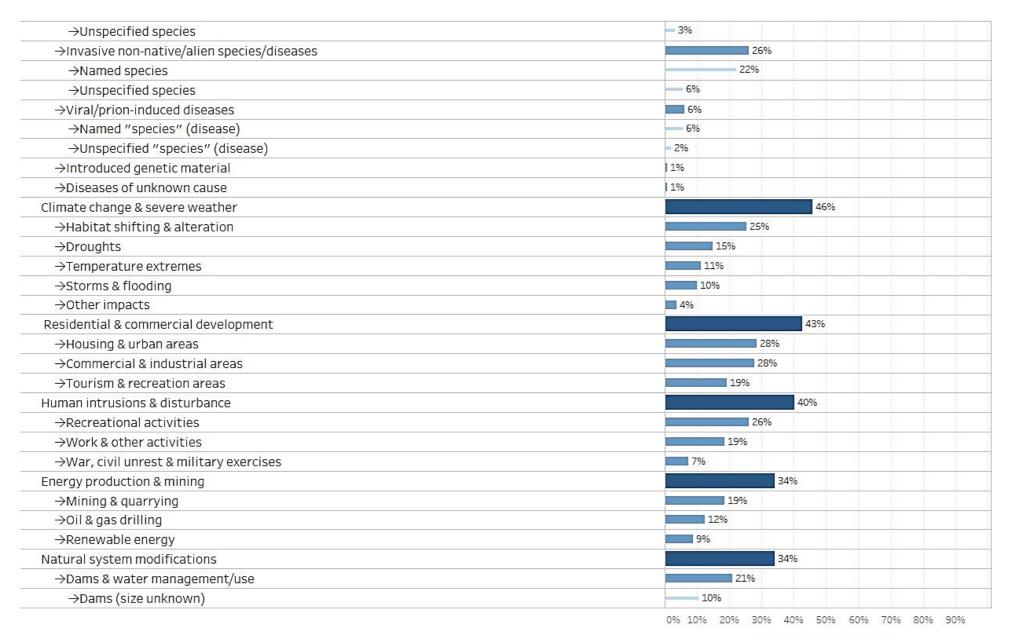
¹ According to the *Rules of Procedure for IUCN Red List Assessments 2017–2020*, codification for threats is not a required supporting information for all assessments, it is required only for taxa assessed as Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, and Near Threatened.

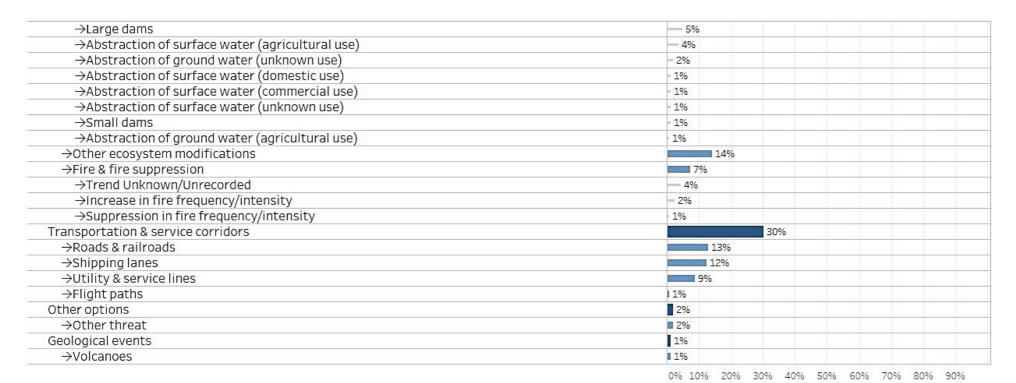
Fig. 5 shows the percentage of species impacted by kind of threat. Biological resource use impacts 159 species (98%); agriculture is affecting 97 species (60%); pollution 94 species (58%); invasive species 80 species (49%); climate change 74 species (46%).

Fig 5. Percentage of species listed on Appendix I impacted, by kind of threat.



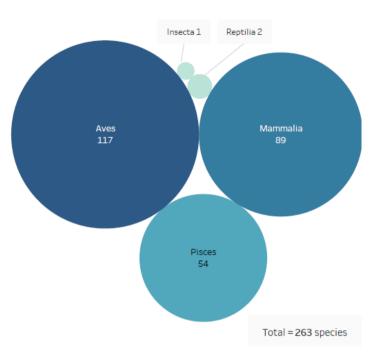






APPENDIX II

Species listed on Appendix II by taxonomic group



CMS Appendix II includes 263 taxa at the species or sub-species levels, of which 89 mammals, 117 birds, 2 reptiles, 54 fish and 1 insect. (Fig.6)

Fig 6. Species and subspecies listed on Appendix II by broad taxonomic category

Conservation status

IUCN Red List categories have been selected from the assessments of the global population of listed taxa, they do not consider the level of geographic population as indicated in Appendix II for some species. Of the 263 species listed on Appendix II, 26 (10%) are assessed as 'Critically Endangered'; 28 (11%) as 'Endangered'; 57 (22%) as 'Vulnerable'; 31 (12%) as 'Near Threatened'. Hence a total of 142 species could be considered as being of significant global concern. Of the remaining 121 species, 85 (32%) are assessed as 'Least Concern'; 12 (5%) as 'Data Deficient'; 1 (<1%) as 'Extinct in the Wild'; 1 species (insect) was considered 'Not Applicable' to the assessment process. For 22 species (8%) no assessment is available in the Red List database and are classified in this analysis as 'Species not assessed'.

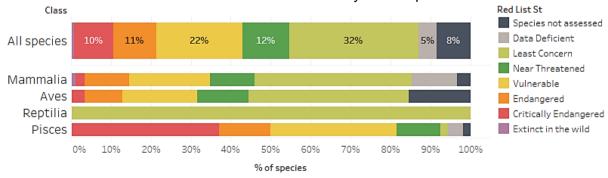


Fig. 7 Percentage of species in IUCN Red List Categories listed on Appendix II

According to the CMS Guidelines for assessment of Appendix I and II listing proposals, a taxon assessed as 'Extinct in the Wild', 'Critically Endangered', 'Endangered', 'Vulnerable' or 'Near Threatened' using the IUCN Red List criteria is eligible for consideration for listing on Appendix II, recognizing that such taxa meet the definition of 'unfavourable conservation status' under the Convention. A taxon assessed as 'Data Deficient' should be evaluated in terms of the merit of any individual Appendix II proposal. Of the species currently listed on Appendix II, 155 (59%) can meet the criteria for listing on the Appendix.



Fig.8 Percentage of species listed in Appendix II meeting the <u>criteria</u> for listing defined in Res.11.33 (Rev.COP12)

Population Trends.

Population trends categories have been selected from the assessments of the global population of listed taxa, they do not consider the level of geographic population as indicated in Appendix I for some species. The current population trend for 126 species (48%) listed on Appendix II is 'Decreasing' (Fig. 11); for 27 species (10%) is 'Stable'; for 20 species (8%) is 'Increasing'; for 64 species (24%) is 'Unknown'; for 3 species (1%) is 'Unspecified'. For 22 species (8%) no information on population trends were found in the Red List database and are classified in this analysis as 'Species not assessed'.

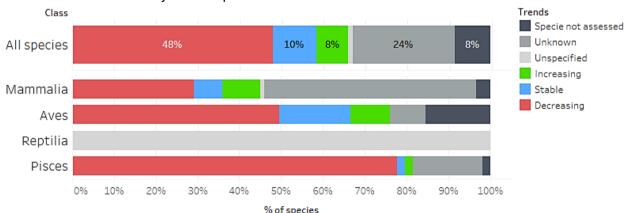


Fig 9. Population trend of species listed in Appendix II

Main threats affecting species listed on Appendix II

Threats as categorized and defined by the IUCN – CMP Unified Classification of Direct Threats have been extracted from Red List Assessments for Appendix II listed species whenever available². All three levels defined by the IUCN hierarchical classification scheme have been considered. A total of 214 species had information about threats available. Threat categories have been extracted from the assessments of the global population of listed taxa, they do not consider the level of geographic population as indicated in Appendix II for some species.

Figure 10 shows the percentage of species impacted by kind of threat. Biological resource use impacts 200 species (93%); pollution is affecting 98 species (46%); invasive & other problematic species, genes and diseases 82 species (38%); climate change & severe weather 81 species (38%); the modification of natural systems, which is, the changes to natural processes such as fire, hydrology and sedimentation affects 69 species (32%).

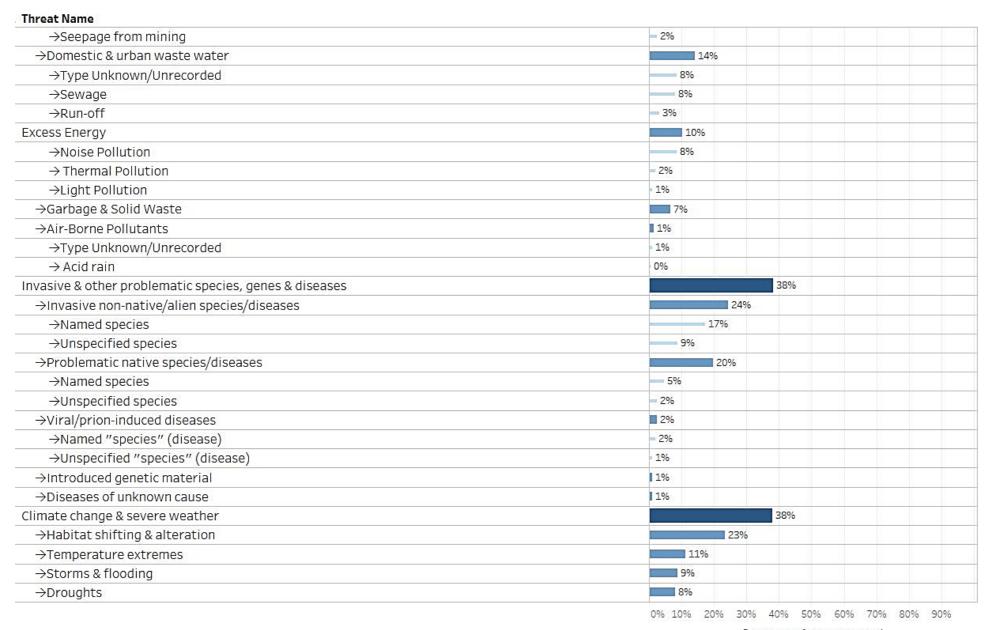
Fig. 10 Percentage of species listed on Appendix II impacted, by kind of threat

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² According to the Rules of Procedure for IUCN Red List Assessments 2017–2020, codification for threats is not a required supporting information for all assessments, it is required only for taxa assessed as Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, and Near Threatened.

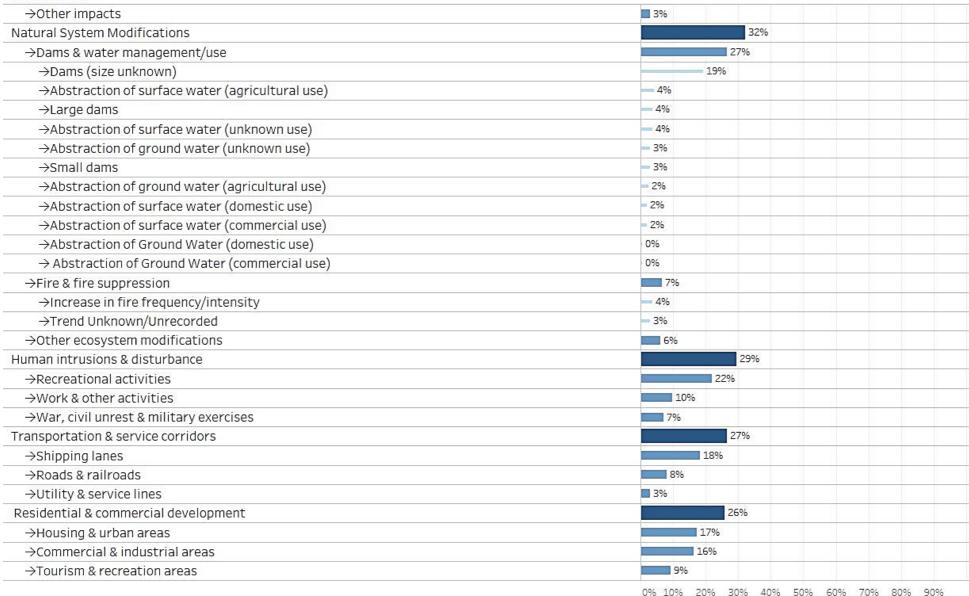
Threat Name Biological resource use 93% → Fishing & harvesting aquatic resources →Unintentional effects: large scale (species being assessed is not the target)[harvest] 55% →Intentional use: subsistence/small scale (species being assessed is the target)[harvest] 38% →Unintentional effects: subsistence/small scale (species being assessed is not the target)[harvest] 37% →Intentional use: large scale (species being assessed is the target)[harvest] 26% →Persecution/control 8% →Motivation Unknown/Unrecorded 2% →Hunting & collecting terrestrial animals 32% →Intentional use (species being assessed is the target) 31% 7% →Persecution/control →Unintentional effects (species being assessed is not the target) 3% →Motivation Unknown/Unrecorded →Logging & wood harvesting 7% →Motivation Unknown/Unrecorded 396 →Unintentional effects: subsistence/small scale (species being assessed is not the target)[harvest] 3% →Unintentional effects: large scale (species being assessed is not the target)[harvest] 1% →Intentional Use: subsistence/small scale (species being assessed is the target) 1% 0% →Intentional Use: large scale (species being assessed is the target) →Gathering terrestrial plants 2% →Unintentional effects (species being assessed is not the target) 2% 46% Pollution →Agricultural & Forestry Effluents 19% →Type Unknown/Unrecorded →Herbicides and Pesticides 14% 7% →Soil Erosion, Sedimentation →Nutrient Loads →Industrial & military effluents 27% →Oil spills 17% →Type Unknown/Unrecorded 16% 0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

Percentage of species assessed

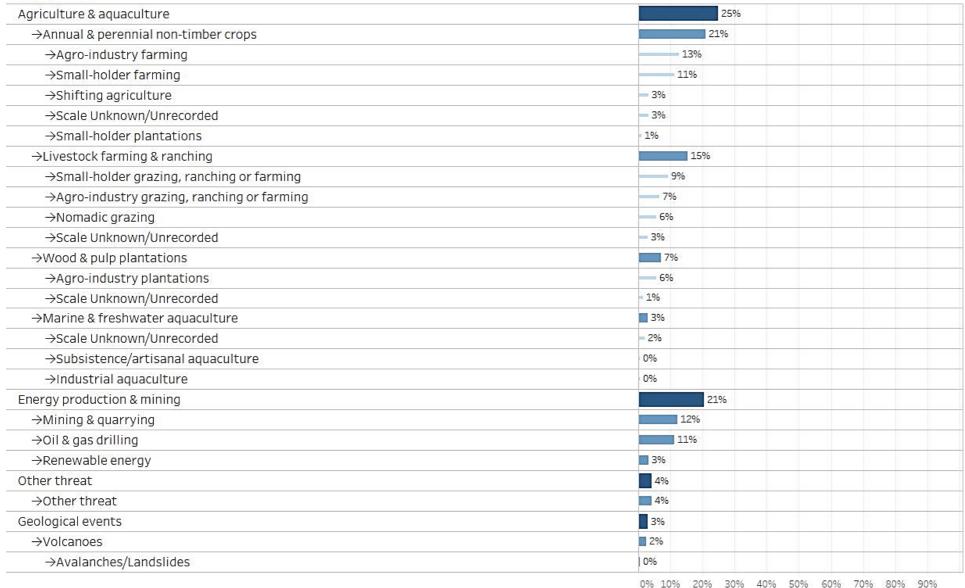


Percentage of species assessed

. Threat Name



.. Threat Name



Species listed and covered under Appendix II by taxonomic group

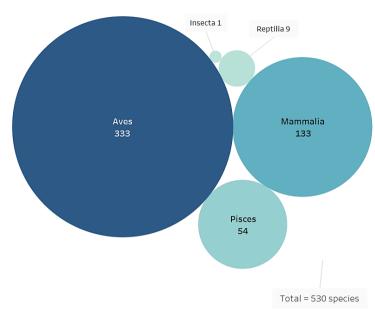


Fig. 11 Species listed and covered under Appendix II by broad taxonomic category

In addition to taxa at the species and subspecies levels, Appendix II lists 2 mammal families, 63 bird families, 3 bird genera and 2 reptile families. A conservative selection of the species covered under the families and genera listed was made, considering covered those species included in a CMS Art. IV Agreement and/or included also on Appendix I.

The two families of mammals contained in Appendix II are bats of the order Chiroptera. Species covered by the EUROBATS Agreement were considered covered by the families, with the exclusion of those species endemic to a single country.

The disaggregation of the bird families and genera used data from the Handbook of the Birds of the World.

A total of 267 species were selected, of which 115 are included in AEWA, 79 in the Raptors MOU, 44 in the EUROBATS Agreement, 27 in CMS Appendix I, 1 in the IOSEA MOU and 1 in the Aquatic Warbler MOU

In total, 530 species are listed and covered under Appendix II, of which 133 mammals, 333 birds, 9 reptiles, 54 fish and 1 insect (Fig. 11)

Conservation status

IUCN Red List categories have been selected from the assessments of the global population of listed taxa, they do not consider the level of geographic population as indicated in Appendix II for some species. Of the 530 species listed and covered under Appendix II, 41 (8%) are assessed as 'Critically Endangered'; 44 (11%) as 'Endangered'; 86 (16%) as 'Vulnerable'; 56 (11%) as 'Near Threatened'. Hence a total of 227 species (43%) of all species listed or covered under Appendix II could be considered as being of significant global concern. Of the remaining 303 species, 259 (49%) are assessed as 'Least Concern'; 17 (3%) as 'Data Deficient'; .one (<1%) as 'Extinct in the Wild'; 1 species (insect) was considered 'Not Applicable' to the assessment process. For 25 species (5%) no assessment is available in the Red List database and are classified in this analysis as 'Species not assessed'.

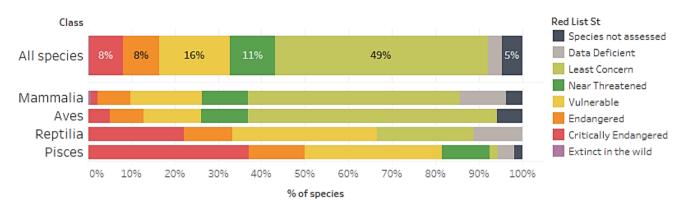


Fig. 12 Percentage of species in IUCN Red List Categories listed and covered in Appendix II

Of the 530 species listed and covered under Appendix II, 245 species (46%) can meet the definition of 'unfavourable conservation status' (Fig. 13).



Fig. 13 Percentage of species listed and covered under Appendix II meeting the <u>criteria</u> for listing on Appendix II defined in Res.11.33 (Rev.COP12)

Population Trends.

Population trends categories have been selected from the assessments of the global population of listed taxa, they do not consider the level of geographic population as indicated in Appendix I for some species. The current population trend for 261 species (49%) listed and covered under Appendix II is 'Decreasing' (Fig. 14); for 75 species (14%) is 'Stable'; for 52 species (10%) is 'Increasing'; for 111 species (21%) is 'Unknown'; for 5 species (1%) is 'Unspecified'. For 25 species (5%) no information on population trends were found in the Red List database and are classified in this analysis as 'Species not assessed'.

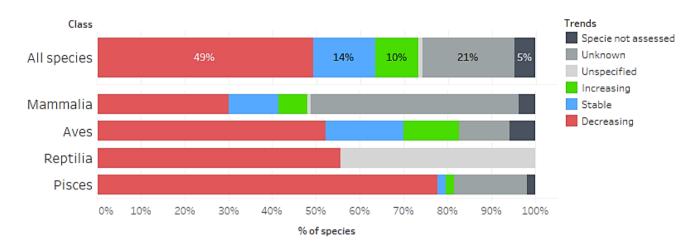


Fig. 14 Population trend of species listed and covered under Appendix II

Main threats affecting species listed and covered in Appendix II

Threats as categorized and defined by the IUCN – CMP Unified Classification of Direct Threats have been extracted from Red List Assessments for Appendix II listed species whenever available³. All three levels defined by the IUCN hierarchical classification scheme have been considered. A total of 425 species had information about threats available. Threat categories have been extracted from the assessments of the global population of listed taxa, they do not consider the level of geographic population as indicated in Appendix II for some species.

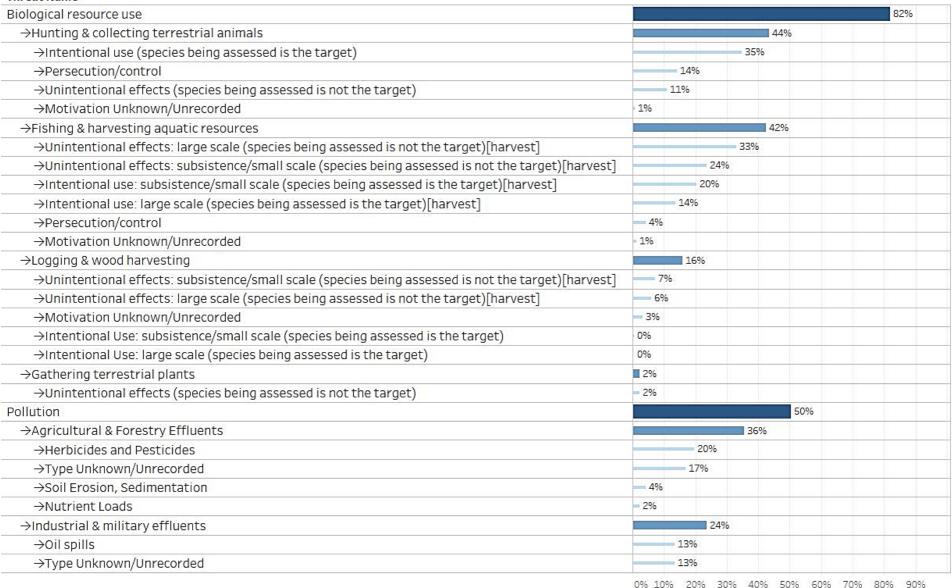
Figure 15 shows the percentage of species impacted by kind of threat. Biological resource use impacts 348 species (82%); pollution is affecting 214 species (50%); climate change 168 (40%); %); Agriculture & aquaculture 166 species (39%); and the modification of natural systems, which is, the changes to natural processes such as fire, hydrology and sedimentation affects 149 species (35%).

Fig. 15 Percentage of species listed and covered in Appendix II impacted, by kind of threat

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³ According to the *Rules of Procedure for IUCN Red List Assessments 2017–2020*, codification for threats is not a required supporting information for all assessments, it is required only for taxa assessed as Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, and Near Threatened.

Threat Name



. Threat Name →Seepage from mining 1% →Domestic & urban waste water 9% →Type Unknown/Unrecorded 6% →Sewage 4% →Run-off →Excess Energy 6% →Noise Pollution 496 →Light Pollution 1% 1% → Thermal Pollution →Garbage & Solid Waste 5% →Air-Borne Pollutants 1196 →Type Unknown/Unrecorded 0% → Acid rain 0% Climate change & severe weather 40% → Habitat shifting & alteration 27% →Droughts 8% →Temperature extremes 7% →Storms & flooding 6% →Other impacts 4% Agriculture & aquaculture 39% →Annual & perennial non-timber crops 28% →Agro-industry farming 19% →Small-holder farming 10% →Shifting agriculture →Scale Unknown/Unrecorded 4% →Livestock farming & ranching 20% →Small-holder grazing, ranching or farming 13% →Agro-industry grazing, ranching or farming 7% →Nomadic grazing 3% →Scale Unknown/Unrecorded

Percentage of species assessed

0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

Threat Name →Wood & pulp plantations 9% →Agro-industry plantations **7**% →Scale Unknown/Unrecorded 3% →Small-holder plantations 0% →Marine & freshwater aquaculture 5% →Industrial aquaculture 3% →Scale Unknown/Unrecorded →Subsistence/artisanal aquaculture 0% Natural system modifications 35% →Dams & water management/use 13% →Dams (size unknown) →Abstraction of surface water (unknown use) 6% →Large dams 4% →Abstraction of ground water (unknown use) 3% →Abstraction of surface water (agricultural use) →Abstraction of ground water (agricultural use) 2% →Abstraction of surface water (commercial use) →Abstraction of surface water (domestic use) 296 →Small dams 1% →Abstraction of Ground Water (domestic use) → Abstraction of Ground Water (commercial use) 0% →Other ecosystem modifications 13% →Fire & fire suppression 7% →Increase in fire frequency/intensity →Trend Unknown/Unrecorded 3% Invasive & other problematic species, genes & diseases 38% →Invasive non-native/alien species/diseases 22% →Named species 17% →Unspecified species 7% →Problematic native species/diseases 19% 0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

. Threat Name →Named species 7% →Unspecified species 3% →Viral/prion-induced diseases 8% →Named "species" (disease) 796 →Unspecified "species" (disease) 1% →Introduced genetic material 0% → Problematic Species/Diseases of Unknown Origin →Unspecified Species 0% →Named Species →Diseases of unknown cause 0% Human intrusions & disturbance 32% → Recreational activities 24% →Work & other activities 13% →War, civil unrest & military exercises 4% Residential & commercial development 26% →Housing & urban areas 18% →Commercial & industrial areas →Tourism & recreation areas 8% Energy production & mining 24% →Renewable energy 12% →Mining & quarrying 10% →Oil & gas drilling 9% Transportation & service corridors 22% →Shipping lanes 9% →Roads & railroads 9% →Utility & service lines 6% →Flight paths 196 Other threat 3% 3% →Other threat Geological events 1% →Volcanoes 196 →Avalanches/Landslides 0%

Percentage of species assessed

0% 10% 20% 30% 40% 50% 60% 70% 80% 90%