Via Electronic Submission

May 21, 2024

Public Comments Processing
Attn: FWS-HQ-IA-2024-0033
U.S. Fish and Wildlife Service
MS: PRB (JAO/3W)
5275 Leesburg Pike
Falls Church, VA
22041-3803

RE: Comments Regarding Convention on International Trade in Endangered Species of Wild Fauna and Flora, Conference of the Parties, Twentieth Regular Meeting; Request for Information and Recommendations on Species Proposals, Resolutions, Decisions, and Agenda Items for Consideration (Docket No. FWS-HQ-IA-2024-0033)

Dear Dr. Gnam and Ms. Aziz,

On behalf of the Natural Resources Defense Council (NRDC), the Center for Biological Diversity (the Center), Defenders of Wildlife (Defenders), and our millions of members and online activists, we make the following recommendations for amending the Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and submitting decisions at the twentieth regular meeting of the Conference of the Parties (CoP20).

Once again, we appreciate the opportunity to make recommendations on what the United States should put forward at CITES on critical trade issues impacting too many of the world's plants, animals, and people amid the biodiversity and climate crises. As detailed below, we urge the United States to approach CoP20 with an ambitious agenda that is fully aligned with the scale and scope of the crises we face, including by proposing Appendix I listing of all species for which the United States is a range state or a significant importer that are threatened with extinction and are or may be affected by trade. We recognize the effort made by the United States in preparing for the nineteenth regular meeting of the Conference of the Parties (CoP19), which "culminat[ed] in the submission of 14 species proposals and six documents the U.S. advanced or co-sponsored to be considered by CITES member nations at CoP19," but it must do even more for CoP20.[1]

In this moment of human history, to do anything less than aggressively using the tools available and pushing the limits of those tools to counter the biodiversity and climate crises is to be complicit in the suffering of hundreds of millions of people and the extinction of thousands of species. The U.S. Fish and Wildlife Service (FWS or the Service) should be affirmatively embarking on a path that rises to the challenge and reverses nature's decline. NRDC, the Center, and Defenders are ready to stand with and support the Service in that agenda.

[1] Press Release, U.S. Department of the Interior, Biden-Harris Administration Announces Critical Progress as CITES CoP19 Comes to a Close (Nov. 28, 2022), https://www.doi.gov/pressreleases/biden-harris-administration-announces-critical-progress-cites-cop19-comes-close.

I. Biodiversity and Climate Crises

As you know, the world is beset by two interrelated crises: climate change and ecosystem collapse. The vast research documenting the impacts the climate crisis is having on the natural world is alarming.[2] In equal measure, research detailing the extent and rate of the biodiversity crisis is also alarming.[3] Globally, natural ecosystems have experienced a net deterioration in their extent and physical condition since 1970.[4] Terrestrial hotspots of endemic species are in worse shape and are experiencing steeper declines than other terrestrial regions.[5] Deforestation continues on an upward trajectory and has gone beyond various "safe limits" identified by researchers as needed to preserve ecosystem integrity and diversity.[6]

As detailed by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the global rate of species extinction is accelerating and has already reached a rate at least tens to hundreds of times higher than the average rate over the past 10 million years.[7] One out of every four species across a wide range of animal and plant taxonomic groups is threatened with extinction. Several regional and national assessments show that more than 40% of insect pollinators are threatened at a national scale. IPBES concluded that around 500,000 terrestrial animal and plant species are "dead species walking." That is, they have insufficient habitat for long term survival and face extinction. Rapid decline in the geographic distribution and population size of animals on land reflects widespread reductions in populations.

There is no way to credibly downplay the dangers to wildlife or humanity from the ongoing loss of biological diversity and the climate crisis. For wildlife, a million species are threatened with extinction, many within decades. For humans, these crises separately and together jeopardize the natural life support systems we depend on for our health, food security, and quality of life.

---

[2] IPCC, 2022: *Climate Change 2022: Impacts, Adaptation, and Vulnerability.* Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp., doi:10.1017/9781009325844; USGCRP, 2018: *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*. Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.).

[3] IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. XXX pages.

[4] *Id*.

[5] IPBES (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio E.S., H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany. 56 pages. Page 24.

[6] IPBES (2019): Global assessment report.

[7] *Id*.

II. Direct Exploitation of Wildlife Is a Major Driver of the Biodiversity Crisis

Direct exploitation of wild animals and plants is the leading driver of the biodiversity crisis in marine ecosystems and terrestrial ecosystems in the Americas and Africa.[8] Ninety-seven percent of marine fish stocks are fully- or over-exploited or depleted. Increasing demands for souvenirs, pets, luxury goods, wild meat, and traditional medicine threaten biodiversity from both illegal and legal harvest. For example, the rate of wildlife extraction from hunting in tropical forests is unsustainable, making up a part of the at least 6 million tons of large to medium size mammals, birds and reptiles that are harvested annually in the tropics. About a third of this harvest is for commercial purposes.[9]

Of course, direct exploitation is not limited to fauna. Between 1990 and 2015, global forest areas decreased by more than one million square miles, in part due to raw timber harvest, which has increased by 45 percent since 1970. Furthermore, in spite of the economic impacts of the COVID pandemic, global tree cover loss increased by 12 percent from 2019 to 2020.[10] Significant evidence also indicates that the direct exploitation of wild animals and plants is a factor in the emergence of a range of diseases, especially where trade is poorly regulated and includes mammals or birds. And even legal regulated trade in wildlife has led to the spread of diseases.[11]

Finally, direct exploitation, like other stressors, can reduce genetic diversity, making it more difficult for plant and animal species to adapt to environmental changes, including climate change, habitat fragmentation, and diseases.[12]

III. FWS Should Propose Species Listings at CoP20 to Protect Range Species and Species for which the U.S. Is a Significant Importer

The Service should take action to reduce the direct-exploitation-of-organisms driver of the biodiversity crisis by utilizing CITES to its full potential. By doing so, it will also help maximize

---

[8] *Id*; Pedro Jaureguiberry *et al.*, The direct drivers of recent global anthropogenic biodiversity loss. *Sci. Adv.* **8**, eabm9982 (2022). DOI:10.1126/sciadv.abm9982.

[9] IPBES (2019): Global assessment report.

[10] World Resources Institute (2021), Primary Rainforest Destruction Increased 12% from 2019 to 2020, https://research.wri.org/gfr/forest-pulse.

[11] Significant evidence also exists that the direct exploitation of wild animals and plants is a factor in the emergence of a range of diseases, especially where trade is poorly regulated and includes mammals or birds. And even legal regulated trade in wildlife has led to the spread of diseases. See IPBES (2020): Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., Amuasi, J., das Neves, C. G., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Földvári, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany.

[12] *See*, *e.g.*, Kardos, M., Armstrong, E. E., Fitzpatrick, S. W., Hauser, S., Hedrick, P. W., Miller, J. M., et al. (2021). The crucial role of genome-wide genetic variation in conservation. *Proc. Natl. Acad. Sci. U. S. A.* 118, e2104642118. doi:10.1073/pnas.2104642118; Schlaepfer, D. R., B. Braschler, H.-P. Rusterholz, and B. Baur. 2018. Genetic effects of anthropogenic habitat fragmentation on remnant animal and plant populations: a meta-analysis. *Ecosphere* 9(10):e02488. 10.1002/ecs2.2488; Frankham, Richard, and others, 'Loss of genetic diversity reduces ability to adapt', *Genetic Management of Fragmented Animal and Plant Populations* (Oxford, 2017; online edn, Oxford Academic, 21 Sept. 2017), https://doi.org/10.1093/oso/9780198783398.003.0004, accessed 13 May 2024.

adaptation potential while minimizing a non-climate stressor, which is essential for increasing species' future resilience to climate change. And it will reduce the threat of a future pandemic to the extent trade controls apply to high-risk species.

CITES, the only international treaty specifically created to address the direct exploitation of species in international trade, has a vital role to play in bringing about the transformational change IPBES confirmed is necessary to confront the global biodiversity crisis. Yet CITES is falling far short of its objective to protect "wild fauna and flora against over-exploitation."[13] Wildlife trade has increased 10-fold since 1975 and legal, unsustainable trade poses a major threat to global biodiversity's health.[14] Also, scientists point out that the Convention is decades behind in providing meaningful protections to hundreds of species facing extinction – CITES listing most often comes a decade or more after species in international trade are classified as "facing a high risk of extinction" on the International Union for Conservation of Nature's *Red List of Threatened Species*, if at all.[15]

Our review of species assessed as facing a high risk of extinction pursuant to the *IUCN Red List of Threatened Species* (*IUCN Red List*) and identified as "likely to be threatened by international trade" by experts at Oxford University, the United Nations Environment Programme World Conservation Monitoring Center (UNEP-WCMS), and IUCN, indicates that numerous species for which the United States is a range state are threatened with extinction (assessed as vulnerable, endangered, or critically endangered) and are or may be affected by trade. Because the *IUCN Red List* guidelines for assessing these species closely reflect the CITES biological criteria for amending Appendix I (*see*, *e.g.*, Res. Conf. 9.24 (Rev. CoP17)) and further analysis has indicated that these species are or may be affected detrimentally by trade, the United States can help fulfill the treaty's mandate ("Appendix I *shall* include *all* species threatened with extinction which are or may be affected by trade") by proposing such species for listing on Appendix I at CoP20.

In doing so, the United States will also be championing U.S. species that are threatened with extinction and potentially suffering from trade. These species need relief from the numerous drivers of their decline, including the threat of direct exploitation, and the United States should be doing all it can to eliminate stressors so these species can have a better chance at recovery. Eliminating the negative impact legal commercial trade is having or could have on threatened U.S. species will also help build species and ecosystem resilience in the face of coming climate and ecosystem shocks.

Further, our review of data on U.S. imports alongside our review of the *IUCN Red List* indicates that numerous species that the United States imports are threatened with extinction and are or may be affected by trade. Again, the United States can help fulfill the treaty's mandate by proposing such species for listing on Appendix I at CoP20. While the United States is not a range

[13] https://cites.org/eng/disc/text.php
[14] IPBES (2019): Chapter 3 of the Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. Page 156.
[15] Frank, E. G., & Wilcove, D. S. (2019). Long delays in banning trade in threatened species. Science, 363(6428), 686-688. https://science.sciencemag.org/content/363/6428/686

state for most of these species, its imports could be contributing to the species' decline and it has a responsibility to contribute to their recovery.

A. United States Species Qualifying for Listing on Appendix I

We examined the status of species identified as facing a high risk of extinction on the *IUCN Red List* for which the United States is a range state, the criteria for amendment of Appendices I in CITES Resolution Conf. 9.24 (Rev. CoP17), and additional analysis specific to identifying species that are likely to be threatened by international trade.[16] Based on that examination, we identified the following U.S. species that meet the CITES criteria for listing on Appendix I and urge the Service to propose these species for listing on Appendix I at CoP20:

American Horseshoe Crab
Limulus polyphemus (American Horseshoe Crab) is classified as "vulnerable" on the *IUCN Red List of Threatened Species* under criterion A3bd of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the future based in part on actual or potential levels of exploitation.[17] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial harvest for medicinal purposes, bait for other fisheries, and pets or display animals.[18]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Atlantic bluefin tuna
Thunnus thynnus (Atlantic Bluefin Tuna (global)) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2bd of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 50% observed, projected, inferred or suspected in the past or projected, inferred, or suspected in the past, based in part on actual or potential levels of exploitation.[19] The *IUCN Red List of Threatened Species* identifies commercial fishing and international trade in *Thunnus thynnus* for meat and recreational fishing as gamefish as severe threats to the species.[20]

---

[16] *See* Challender, D.W.S., Cremona, P.J., Malsch, K. et al. Identifying species likely threatened by international trade on the IUCN Red List can inform CITES trade measures. Nat Ecol Evol 7, 1211–1220 (2023). https://doi.org/10.1038/s41559-023-02115-8.
[17] Smith, D.R., Beekey, M.A., Brockmann, H.J., King, T.L., Millard, M.J. & Zaldívar-Rae, J.A. 2016. *Limulus polyphemus*. *The IUCN Red List of Threatened Species* 2016: e.T11987A80159830. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T11987A80159830.en. Downloaded on 30 April 2021.
[18] *Id.*
[19] Collette, B., Amorim, A.F., Boustany, A., Carpenter, K.E., de Oliveira Leite Jr., N., Di Natale, A., Die, D., Fox, W., Fredou, F.L., Graves, J., Viera Hazin, F.H., Hinton, M., Juan Jorda, M., Kada, O., Minte Vera, C., Miyabe, N.,Nelson, R., Oxenford, H., Pollard, D., Restrepo, V., Schratwieser, J., Teixeira Lessa, R.P., Pires Ferreira Travassos, P.E. & Uozumi, Y. 2011. *Thunnus thynnus*. *The IUCN Red List of Threatened Species* 2011: e.T21860A9331546. https://dx.doi.org/10.2305/IUCN.UK.2011-2.RLTS.T21860A9331546.en. Downloaded on 29 April 2021.
[20] *Id*.

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Atlantic Devilray

Mobula hypostoma (Atlantic devilray) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2cd and A3d of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 50% observed, projected, inferred or suspected in the past or projected, inferred, or suspected to be met in the future, based in part on actual or potential levels of exploitation.[21] The *IUCN Red List of Threatened Species* identifies fishing and international trade in *Cetorhinus maximus* for meat and fins as a threat to the species.[22]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Barbour's Map Turtle

Graptemys barbouri (Barbour's map turtle) is classified as "vulnerable" on the *IUCN Red List of Threatened Species* under criterion A2bcde of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the past based in part on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[23] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets and display animals.[24]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Basking Shark

Cetorhinus maximus (Basking Shark) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2bd of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 50% observed, projected, inferred or suspected in the past based on actual or potential levels of exploitation.[25] The *IUCN*

---

[21] Marshall, A., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Herman, K., Jabado, R.W., Liu, K.M., Rigby, C.L. & Romanov, E. 2019. *Mobula hypostoma*. *The IUCN Red List of Threatened Species* 2019: e.T126710128A896599. https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T126710128A896599.en. Downloaded on 28 April 2021.

[22] *Id.*

[23] van Dijk, P.P. 2011. *Graptemys barbouri* (errata version published in 2016). *The IUCN Red List of Threatened Species* 2011: e.T9496A97417240. https://dx.doi.org/10.2305/IUCN.UK.2013.RLTS.T9496A12995762.en. Downloaded on 30 April 2021.

[24] *Id*.

[25] Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Herman, K., Jabado, R.W., Liu, K.M., Marshall, A., Romanov, E. & Kyne, P.M. 2021. *Cetorhinus maximus* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2021: e.T4292A194720078. https://dx.doi.org/10.2305/IUCN.UK.20211.RLTS.T4292A194720078.en. Downloaded on 28 April 2021.

Red List of Threatened Species identifies fishing and international trade in *Cetorhinus maximus* for meat and fins as a threat to the species.[26]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Bigeye Tuna

Thunnus obesus (Bigeye tuna) *is* classified as "Vulnerable" on the IUCN Red List of Threatened Species under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% in the past based in part on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[27] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fishing for food.[28]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Black Grouper (Gulf of Mexico)

Mycteroperca bonaci (Black grouper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% in the past based in part on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[29] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fishing for food.[30]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Blanding's Turtle

Emydoidea blandingii (Blandings turtle) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2cde of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 50% observed, estimated,

---

[26] *Id.*

[27] Oxenford, H., Restrepo, V., Schaefer, K., Schratwieser, J., Serra, R., Sun, C., Teixeira Lessa, R.P., Pires Ferreira Travassos, P.E., Uozumi, Y. & Yanez, E. 2011. *Thunnus obesus*. *The IUCN Red List of Threatened Species* 2011: e.T21859A9329255. https://dx.doi.org/10.2305/IUCN.UK.2011-2.RLTS.T21859A9329255.en. Downloaded on 03 May 2021.

[28] *Id.*

[29] Lindeman, K., Claro, R., Sedberry, G., Carpenter, K.E., Zapp-Sluis, M. & Cowan, J. 2015. *Mycteroperca bonaci*. *The IUCN Red List of Threatened Species* 2015: e.T132724A70328209. Downloaded on 04 May 2021.

[30] *Id*.

inferred, or suspected in the past.[31] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for the high-end pet trade, including suspected illegal trade to Japan.[66]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion C(ii) and because it is or may be affected by trade.

Blue Coral

Heliopora coerulea is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4cde of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[32] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals and handicrafts and jewelry.[33]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Bluefish

Pomatomus saltatrix (Bluefish) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% in the past, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on actual or potential levels of exploitation.[34] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fishing for food and for pets or display animals.[70]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

---

[31] van Dijk, P.P. & Rhodin, A.G.J. 2011. *Emydoidea blandingii* (errata version published in 2019). *The IUCN Red List of Threatened Species* 2011: e.T7709A155088836. https://dx.doi.org/10.2305/IUCN.UK.20111.RLTS.T7709A155088836.en. Downloaded on 26 April 2021.

[32] Obura, D., Fenner, D., Hoeksema, B., Devantier, L. & Sheppard, C. 2008. *Heliopora coerulea*. *The IUCN Red List of Threatened Species* 2008: e.T133193A3624060. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133193A3624060.en. Downloaded on 30 April 2021.

[33] *Id*.

[34] Carpenter, K.E., Ralph, G., Pina Amargos, F., Collette, B.B., Singh-Renton, S., Aiken, K.A., Dooley, J. & Marechal, J. 2015. *Pomatomus saltatrix* (errata version published in 2017). *The IUCN Red List of Threatened Species* 2015: e.T190279A115314064. https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T190279A19929357.en. Downloaded on 03 May 2021.

Brown-marbled Grouper

Epinephelus fuscoguttatus (Brown-marbled Grouper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2bd and A4bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% in the past or over a past and future time period, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, due in part to actual or potential levels of exploitation.[35] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for food and use of wild juveniles in aquaculture.[76]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Cactus Coral (P. cactus)

Pavona cactus (Cactus coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both past and future, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on actual or potential levels of exploitation.[36] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[37]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Cactus Coral (P. decussata)

Pavona decussata (Cactus coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4c of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both past and future, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on a decline in area of occupancy, extent of

[35] Rhodes, K., Sadovy, Y. & Samoilys, M. 2018. *Epinephelus fuscoguttatus*. *The IUCN Red List of Threatened Species* 2018: e.T44673A100468078. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T44673A100468078.en. Downloaded on 30 April 2021.

[36] Hoeksema, B.W., Rogers, A. & Quibilan, M.C. 2014. *Pavona cactus*. *The IUCN Red List of Threatened Species* 2014: e.T133558A54283966. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T133558A54283966.en. Downloaded on 03 May 2021.

[37] *Id*.

occurrence, and/or habitat quality.[38] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[39]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

California Lady's Slipper

Cypripedium californicum (California Lady's Slipper) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criteria B2ab(i,ii,iii,iv,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occupancy of less than 500 km^2 and severely fragmented habitat or number of locations and continuing observed, estimated, inferred, projected decline in extent of occurrence; areas of occupancy; area, extent and/or quality of habitat; number of locations or subpopulations and number of mature individuals.[40] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for collection by "garden lovers."[41]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria B(i and iv) and because it is or may be affected by trade.

Camouflage Grouper

Epinephelus polyphekadion (Camouflage Grouper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% in the past where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, due in part to actual or potential levels of exploitation.[42] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fishing for food.[43]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

---

[38] Hoeksema, B.W., Rogers, A. & Quibilan, M.C. 2014. *Pavona decussata*. *The IUCN Red List of Threatened Species* 2014: e.T133041A54183041. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T133041A54183041.en. Downloaded on 03 May 2021.

[39] *Id*.

[40] Rankou, H. 2014. *Cypripedium californicum*. *The IUCN Red List of Threatened Species* 2014: e.T43315511A43327619. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T43315511A43327619.en. Downloaded on 26 April 2021.

[41] *Id*.

[42] Rhodes, K., Choat, J.H., Sadovy, Y., Myers, R., To, A., Ma, K., Samoilys, M., Suharti, S., Law, C. & Amorim, P. 2018. *Epinephelus polyphekadion*. *The IUCN Red List of Threatened Species* 2018: e.T61339A100553967. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T61339A100553967.en. Downloaded on 30 April 2021.

[43] *Id*.

Common Thresher Shark

Alopias vulpinus is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on actual or potential levels of exploitation.[44] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii).

Alopias vulpinus is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its meat, fins, oil and skin.[45]

Cubera Snapper

Lutjanus cyanopterus (Cubera snapper) is classified as "Vulnerable" on the IUCN Red List of Threatened Species under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the past where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on actual or potential levels of exploitation.[46] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fishing for food.[93]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Daisy Coral (*A. allingi*)

Alveopora allingi (Daisy coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat and on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[47] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets and display animals.[48]

---

[44] Rigby, C.L., Barreto, R., Fernando, D., Carlson, J., Charles, R., Fordham, S., Francis, M.P., Herman, K., Jabado, R.W., Liu, K.M., Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2022. *Alopias vulpinus* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2022: e.T39339A212641186. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T39339A212641186.en. Accessed on 20 May 2024.

[45] *Id.*

[46] Lindeman, K., Anderson, W., Carpenter, K.E., Claro, R., Cowan, J., Padovani-Ferreira, B., Rocha, L.A., Sedberry, G. & Zapp-Sluis, M. 2016. *Lutjanus cyanopterus*. *The IUCN Red List of Threatened Species* 2016: e.T12417A506633. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T12417A506633.en. Downloaded on 03 May 2021.

[47] Sheppard, A., Fenner, D., Edwards, A., Abrar, M. & Ochavillo, D. 2014. *Alveopora allingi*. *The IUCN Red List of Threatened Species* 2014: e.T133332A54240066. https://dx.doi.org/10.2305/IUCN.UK.20141.RLTS.T133332A54240066.en. Downloaded on 30 April 2021.

[48] *Id*.

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Daisy Coral (*A. verrilliana*)
Alveopora verrilliana (Daisy coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat and on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[49] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets and display animals.[97]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Diamondback Terrapin
Malaclemys terrapin (Diamondback terrapin) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4acde of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based in part on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[50] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for food and notes the use for pet trade and as stock for farms in Asia and elsewhere.[51]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Disc Coral (*T. mesenterina*)
Turbinaria mesenterina (Disc coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population

[49] Sheppard, A., Fenner, D., Edwards, A., Abrar, M. & Ochavillo, D. 2014. *Alveopora verrilliana*. *The IUCN Red List of Threatened Species* 2014: e.T133156A54203839. https://dx.doi.org/10.2305/IUCN.UK.20141.RLTS.T133156A54203839.en. Downloaded on 30 April 2021.
[50] Roosenburg, W.M., Baker, P.J., Burke, R., Dorcas, M.E. & Wood, R.C. 2019. *Malaclemys terrapin*. *The IUCN Red List of Threatened Species* 2019: e.T12695A507698. https://dx.doi.org/10.2305/IUCN.UK.20191.RLTS.T12695A507698.en. Downloaded on 30 April 2021.
[51] *Id*.

reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat and on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[52] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets and display animals.[101]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Disc Coral (*T. peltata*)
Turbinaria peltata (Disc coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat and on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[53] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets and display animals.[54]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Disc Coral (*T. reniformis*)
Turbinaria reniformis (Disc coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4c of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[55] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets and display animals.[56]

---

[52] Hoeksema, B.W., Rogers, A. & Quibilan, M.C. 2014. *Turbinaria mesenterina*. *The IUCN Red List of Threatened Species* 2014: e.T133633A54294757. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T133633A54294757.en. Downloaded on 03 May 2021.
101
[53] Hoeksema, B., Rogers, A. & Quibilan, M. 2008. *Turbinaria peltata*. *The IUCN Red List of Threatened Species* 2008: e.T133498A3774286. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133498A3774286.en. Downloaded on 03 May 2021.
[54] *Id*.
[55] Hoeksema, B.W., Rogers, A. & Quibilan, M.C. 2014. *Turbinaria reniformis*. *The IUCN Red List of Threatened Species* 2014: e.T133697A54306914. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T133697A54306914.en. Downloaded on 03 May 2021.
[56] *Id*.

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Galaxy Coral (*G. astreata*)

Galaxea astreata (Galaxy coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[57] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[58]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Golden Tilefish (global)

Lopholatilus chamaeleonticeps (Golden Tilefish) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2bd of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 50% observed, estimated, inferred, or suspected in the past.[59] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fisheries for food.[117]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Great White Shark

Carcharodon carcharias is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on actual or potential levels of exploitation.[60] The species qualifies for listing on

---

[57] Hoeksema, B., Rogers, A. & Quibilan, M. 2008. *Galaxea astreata*. *The IUCN Red List of Threatened Species* 2008: e.T133354A3704161. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133354A3704161.en. Downloaded on 30 April 2021.

[58] *Id*.

[59] Aiken, K.A., Collette, B., Dooley, J., Kishore, R., Marechal, J., Pina Amargos, F. & Singh-Renton, S. 2015. *Lopholatilus chamaeleonticeps*. *The IUCN Red List of Threatened Species* 2015: e.T16545046A16546277. https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T16545046A16546277.en. Downloaded on 26 April 2021.

[60] Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Herman, K., Jabado, R.W., Jones, G.C.A., Liu, K.M., Lowe, C.G, Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2022. *Carcharodon carcharias* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2022: e.T3855A212629880. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T3855A212629880.en. Accessed on 20 May 2024.

Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii).

Carcharodon carcharias is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its meat, fins and jaws.[61]

Hogfish

Lachnolaimus maximus (Hogfish) is classified as "vulnerable" on the *IUCN Red List of Threatened Species* under criterion A2bd of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the past based in part on actual or potential levels of exploitation.[62] The *IUCN Red List of Threatened Species* identifies international use and trade for food and pets or display animals.[63]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Humphead Wrasse

Cheilinus undulatus (Humphead Wrasse) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2bd and A3bd of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 50% observed, estimated, inferred, or suspected in the past and projected, inferred or suspected to be met in the future.[64] The *IUCN Red List of Threatened Species* identifies global small and large-scale harvest and trade in live specimens for food and for the aquarium trade as the most serious threat to the species.[65]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Kitefin Shark

Dalatias licha is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd+3d of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on

---

[61] *Id.*

[62] Choat, J.H., Pollard, D. & Sadovy, Y.J. 2010. *Lachnolaimus maximus* (errata version published in 2018). *The IUCN Red List of Threatened Species* 2010: e.T11130A124708500. https://dx.doi.org/10.2305/IUCN.UK.20104.RLTS.T11130A3252395.en. Downloaded on 03 May 2021.

[63] *Id*.

[64] Russell, B. (Grouper & Wrasse Specialist Group). 2004. *Cheilinus undulatus*. *The IUCN Red List of Threatened Species* 2004: e.T4592A11023949. https://dx.doi.org/10.2305/IUCN.UK.2004.RLTS.T4592A11023949.en. Downloaded on 04 May 2021.

[65] *Id*.

actual or potential levels of exploitation.[66] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii).

Dalatias licha is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its flesh, meat, oil and skin.[67]

Lined Seahorse

Hippocampus erectus (Lined seahorse) is classified as "vulnerable" on the *IUCN Red List of Threatened Species* under criterion A2d of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a past population reduction of more than 30% observed, estimated, inferred, or suspected based in part on actual or potential levels of exploitation where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[134] The *IUCN Red List of Threatened Species* identifies broad international use and trade for pets or display animals, handicrafts and jewelry, medicinal use, and captive production as a key threat to the species.[135]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Longfin Mako

Isurus paucus (Longfin Mako) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2d of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 50% observed, estimated, inferred, or suspected based on actual or potential levels of exploitation.[68] *IUCN Red List of Threatened Species* identifies large-scale commercial fishing and international trade in *Isurus paucus* for meat and fins as the primary threat to the species.[69]

Mexican Blindcat

Prietella phreatophila (Mexican Blindcat) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion B1ab of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an extent of occurrence of less than 20,000 km^2.[70] The *IUCN Red List of Threatened Species* identifies international use and trade of the species, noting that the species is thought to be threatened by over-collection for the aquarium trade.[71]

---

[66] Finucci, B., Walls, R.H.L., Guallart, J. & Kyne, P.M. 2018. *Dalatias licha*. *The IUCN Red List of Threatened Species* 2018: e.T6229A3111662. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T6229A3111662.en. Accessed on 20 May 2024.

[67] *Id.*

[68] Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Jabado, R.W., Liu, K.M., Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2019. *Isurus paucus*. *The IUCN Red List of Threatened Species* 2019: e.T60225A3095898. https://dx.doi.org/10.2305/IUCN.UK.20191.RLTS.T60225A3095898.en. Downloaded on 04 May 2021.

[69] *Id.*

[70] Contreras-Balderas, S. & Almada-Villela, P. 2019. *Prietella phreatophila*. *The IUCN Red List of Threatened Species* 2019: e.T18136A1725896. https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T18136A1725896.en. Downloaded on 03 May 2021.

[71] *Id*.

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria B(i, ii, iii, and iv), and because it is or may be affected by trade.

Montipora Coral (*M. angulata*)
Montipora angulata (Montipora coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[72] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[149]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Montipora Coral (*M. calcarea*)
Montipora calcarea (Montipora coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[73] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[74]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Montipora Coral (*M. caliculata*)
Montipora caliculata (Montipora coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of at least 30% where the time period must include both the past and the

[72] DeVantier, L., Hodgson, G., Huang, D., Johan, O., Licuanan, A., Obura, D., Sheppard, C., Syahrir, M. & Turak, E. 2008. *Montipora angulata*. *The IUCN Red List of Threatened Species* 2008: e.T132866A3468128. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T132866A3468128.en. Downloaded on 30 April 2021.
[73] DeVantier, L., Hodgson, G., Huang, D., Johan, O., Licuanan, A., Obura, D., Sheppard, C., Syahrir, M. & Turak, E. 2008. *Montipora calcarea*. *The IUCN Red List of Threatened Species* 2008: e.T133185A3620185. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133185A3620185.en. Downloaded on 30 April 2021.
[74] *Id*.

future and where the causes of reduction may not have ceased, or may not be understood, or may not be reversible, thus increasing the risk of extinction.[75] The *IUCN Red List of Threatened Species* identifies international use and trade of the species, noting that intentional small-scale harvest is an ongoing threat.[153]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Mountain Lady's Slipper

Cypripedium montanum (Mountain Lady's Slipper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion B2ab of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occupancy of less than 2,000 km², a severely fragmented population with an estimated ten individuals and continuing decline observed, estimated, inferred or projected in subpopulations.[76] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for medicinal and ornamental purposes, noting that collection from the wild for horticulture or medicinal purposes is one of many threats causing a continuing decline of the species in all the then estimated locations and the destruction of some subpopulations.[77]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria B(i, ii, and iv), and because it is or may be affected by trade.

Pacific Bluefin Tuna

Thunnus orientalis (Pacific bluefin tuna) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% in the past based in part on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[78] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fishing for food.[79]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

---

[75] DeVantier, L., Hodgson, G., Huang, D., Johan, O., Licuanan, A., Obura, D.O., Sheppard, C., Syahrir, M. & Turak, E. 2014. *Montipora caliculata*. *The IUCN Red List of Threatened Species* 2014: e.T133220A54216304. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T133220A54216304.en. Downloaded on 30 April 2021.

[76] Rankou, H. 2014. *Cypripedium montanum*. *The IUCN Red List of Threatened Species* 2014: e.T43316810A43327694. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T43316810A43327694.en. Downloaded on 03 May 2021.

[77] *Id*.

[78] Collette, B., Fox, W., Juan Jorda, M., Nelson, R., Pollard, D., Suzuki, N. & Teo, S. 2014. *Thunnus orientalis*. *The IUCN Red List of Threatened Species* 2014: e.T170341A65166749. https://dx.doi.org/10.2305/IUCN.UK.20143.RLTS.T170341A65166749.en. Downloaded on 03 May 2021.

[79] *Id*.

Pascagoula Map Turtle

Graptemys gibbonsi (Pascagoula map turtle) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2bce and A4ce of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 50% observed, estimated, inferred, or suspected.[80] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[81]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Pearl River Map Turtle

Graptemys pearlensis (Pearl River map turtle) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A1bcde and A4bcde of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a past population reduction of more than 70% observed, estimated, inferred, or suspected and a population reduction of more than 50% observed, estimated, inferred, protected or suspected over a past and future time period.[82] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[83]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Pelagic Thresher Shark

Alopias pelagicus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 50% based in part on actual or potential levels of exploitation.[84] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii).

---

[80] van Dijk, P.P. 2011. *Graptemys gibbonsi* (errata version published in 2016). *The IUCN Red List of Threatened Species* 2011: e.T184436A97294046. https://dx.doi.org/10.2305/IUCN.UK.2011-1.RLTS.T184436A8275938.en. Downloaded on 27 April 2021.

[81] *Id*. See also van Dijk, P.P. 2011. *Graptemys pearlensis* (errata version published in 2016). *The IUCN Red List of Threatened Species* 2011: e.T184437A97423604. https://dx.doi.org/10.2305/IUCN.UK.20111.RLTS.T184437A8276246.en. Downloaded on 27 April 2021. "Map turtles identified as *Graptemys gibbonsi* have been extensively traded in the global pet trade; collecting efforts for the species have included the Pearl River basin (Selman and Qualls in Lovich *et al*. 2009), meaning that an unknown but certain proportion of the animals traded as *gibbonsi* were actually *pearlensis*."

[82] van Dijk, P.P. 2011. *Graptemys pearlensis* (errata version published in 2016). *The IUCN Red List of Threatened Species* 2011: e.T184437A97423604. https://dx.doi.org/10.2305/IUCN.UK.2011-1.RLTS.T184437A8276246.en. Downloaded on 27 April 2021.

[83] *Id*.

[84] Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Herman, K., Jabado, R.W., Liu, K.M., Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2019. *Alopias pelagicus*. *The IUCN Red List of Threatened Species* 2019: e.T161597A68607857. https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T161597A68607857.en. Accessed on 20 May 2024.

Also, *Alopias pelagicus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its meat, fins, oil and skin.[85]

Pigeon Mountain Salamander

Plethodon petraeus is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria D2 of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a very small or restricted population and a restricted area of occupancy or number of locations with a plausible future threat that could drive the species to Critically Endangered or Extinct in a very short time of <20 km^2 or number of locations of five or less.[86] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals or specimen collecting.[87]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Polar Bear

Ursus maritimus (Polar Bear) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion A3c of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 30% projected, inferred or suspected to be met it the future.[88] The *IUCN Red List of Threatened Species* identifies ongoing intentional use of the species as a threat and notes commercial export of polar bear products from Canada.[89]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Porbeagle Shark

Lamna nasus is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on actual or potential levels of exploitation.[90] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii).

---

[85] Id.

[86] Geoffrey Hammerson. 2004. *Plethodon petraeus*. *The IUCN Red List of Threatened Species* 2004: e.T59350A11921872. https://dx.doi.org/10.2305/IUCN.UK.2004.RLTS.T59350A11921872.en. Downloaded on 03 May 2021.

[87] *Id*.

[88] Wiig, Ø., Amstrup, S., Atwood, T., Laidre, K., Lunn, N., Obbard, M., Regehr, E. & Thiemann, G. 2015. *Ursus maritimus*. *The IUCN Red List of Threatened Species* 2015: e.T22823A14871490. https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T22823A14871490.en. Downloaded on 03 May 2021.

[89] *Id*.

[90] Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Herman, K., Jabado, R.W., Liu, K.M., Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2019. *Lamna nasus*. *The IUCN Red List of Threatened Species* 2019: e.T11200A500969. https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T11200A500969.en. Accessed on 20 May 2024.

Lamna nasus is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its fins, meat, and oil.[91]

Porites Coral (*P. horizontalata*)
Porites horizontalata (Porites Coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4cde of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected, where the time period must include both the past and the future, where the causes of reduction may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on actual or potential levels of exploitation.[92] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[93]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion C(ii) and because it is or may be affected by trade.

Porites Coral (*P. nigrescens*)
Porites nigrescens (Porites Coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion A4cde of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected, where the time period must include both the past and the future, where the causes of reduction may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on actual or potential levels of exploitation.[94] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[95]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion C(ii) and because it is or may be affected by trade.

Psammocora stellata
Psammocora stellata is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion A4ce of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future and where the causes of reduction may not have ceased or may not be understood or may not be reversible, thus

---

[91] *Id.*
[92] Sheppard, A., Fenner, D., Edwards, A., Abrar, M. & Ochavillo, D. 2014. *Porites horizontalata*. *The IUCN Red List of Threatened Species* 2014: e.T133486A54271677. https://dx.doi.org/10.2305/IUCN.UK.20141.RLTS.T133486A54271677.en. Downloaded on 03 May 2021.
[93] *Id.*
[94] Sheppard, A., Fenner, D., Edwards, A., Abrar, M. & Ochavillo, D. 2014. *Porites nigrescens*. *The IUCN Red List of Threatened Species* 2014: e.T133038A54182379. https://dx.doi.org/10.2305/IUCN.UK.20141.RLTS.T133038A54182379.en. Downloaded on 03 May 2021.
[95] *Id.*

increasing the risk of extinction.[96] The *IUCN Red List of Threatened Species* identifies international use and trade of the species, noting that intentional small-scale harvest is an ongoing threat.[97]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion C(ii), and because it is or may be affected by trade.

Red Grouper

Epinephelus morio (Red grouper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the past where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on actual or potential levels of exploitation.[98] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fishing for food.[99]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Red Snapper

Lutjanus campechanus (Red snapper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the past where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on actual or potential levels of exploitation.[100] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fishing for food.[101]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

---

[96] Cortés, J., Edgar, G., Chiriboga, A., Sheppard, C., Turak, E. & Wood, E. 2014. *Psammocora stellata*. *The IUCN Red List of Threatened Species* 2014: e.T132860A54149966. HYPERLINK "https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T132860A54149966.en"https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T132860A54149966.en. Downloaded on 03 May 2021.

[97] *Id.*

[98] Brule, T., Bertoncini, A.A., Ferreira, B., Aguilar-Perera, A. & Sosa-Cordero, E. 2018. *Epinephelus morio*. *The IUCN Red List of Threatened Species* 2018: e.T44681A46914636. https://dx.doi.org/10.2305/IUCN.UK.20182.RLTS.T44681A46914636.en. Downloaded on 03 May 2021.

[99] *Id*.

[100] Anderson, W., Claro, R., Cowan, J., Lindeman, K., Padovani-Ferreira, B. & Rocha, L.A. 2015. *Lutjanus campechanus* (errata version published in 2017). *The IUCN Red List of Threatened Species* 2015: e.T194365A115334224. https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T194365A2322724.en. Downloaded on 03 May 2021.

[101] *Id.*

Reindeer

Rangifer tarandus (Reindeer) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion A2a of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased or may not be understood or may not be reversible, thus increasing the risk of extinction.[102] The *IUCN Red List of Threatened Species* identifies international use and trade of the species, noting the commercial use of antlers and ongoing intentional use as a threat to the species.[103]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i), and because it is or may be affected by trade.

Sea Otter

Enhydra lutris (Sea Otter) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2abe of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of at least 50% observed, estimated, inferred, or suspected in the past. [104] The *IUCN Red List of Threatened Species* identifies the international trade for skins as a threat to the species.[105] For example, hundreds of sea otter pelts obtained illegally from the Commander Islands Biosphere Nature Reserve have been found for sale on the Russian black market on at least two occasions since 2005.[106] Most of these skins were sold on to markets in China.[107]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i) and C(ii)(d) and because it is or may be affected by trade.

Shortfin Mako

Isurus oxyrinchus (Shortfin Mako) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of at least 50% observed, estimated, inferred, or suspected in the past.[108] The *IUCN Red List of Threatened Species* identifies international trade for meat as a threat to the species, which is utilized fresh, frozen, smoked, and

---

[102] Gunn, A. 2016. *Rangifer tarandus*. *The IUCN Red List of Threatened Species* 2016: e.T29742A22167140. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T29742A22167140.en. Downloaded on 03 May 2021.
[103] *Id*.
[104] Doroff, A. & Burdin, A. 2015. *Enhydra lutris*. *The IUCN Red List of Threatened Species* 2015: e.T7750A21939518. https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T7750A21939518.en. Downloaded on 26 April 2021.
[105] *Id.*
[106] *Id.*
[107] *Id.*
[108] Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Jabado, R.W., Liu, K.M., Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2019. *Isurus oxyrinchus*. *The IUCN Red List of Threatened Species* 2019: e.T39341A2903170. https://dx.doi.org/10.2305/IUCN.UK.20191.RLTS.T39341A2903170.en. Downloaded on 27 April 2021.

dried-salted for human consumption.[109] The fins are commonly traded, comprising 1.2% of the fins imported into Hong Kong in 2014.[110]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion C(ii)(c), and because it is or may be affected by trade.

Sicklefin Devilray

Mobula tarapacana (Sicklefin Devilray) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criteria A2bd and A3d of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of at least 50% observed, estimated, inferred, or suspected in the past and a population reduction of at least 50% projected, inferred, or suspected to be met in the future.[111] The *IUCN Red List of Threatened Species* states that international trade of the species for meat, skin, cartilage, liver oil, and gill plates threatens the species.[112] In some fisheries, *Mobula tarapacana* is 'winged' (*i.e.*, pectoral fins are removed from body) and frozen for export to Asia, particularly Thailand and Malaysia.[113] The cartilage is commonly used for leather products (shoes, wallets, knife handles, etc.) and the gill plates are typically exported to Asia, where they fetch high prices for use in Traditional Chinese Medicines.[114]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion C(ii)(c) and because it is or may be affected by trade.

Silky Shark

Carcharhinus falciformis is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on actual or potential levels of exploitation.[115] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii). *Carcharhinus falciformis* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its meat, skin and oil.[116]

---

[109] *Id.*
[110] *Id.*
[111] Marshall, A., Barreto, R., Bigman, J.S., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Herman, K., Jabado, R.W., Liu, K.M., Pardo, S.A., Rigby, C.L., Romanov, E. & Walls, R.H.L. 2019. *Mobula tarapacana*. *The IUCN Red List of Threatened Species* 2019: e.T60199A124451161. https://dx.doi.org/10.2305/IUCN.UK.20193.RLTS.T60199A124451161.en. Downloaded on 27 April 2021.
[112] *Id.*
[113] *Id.*
[114] *Id.*
[115] Rigby, C.L., Sherman, C.S., Chin, A. & Simpfendorfer, C. 2021. *Carcharhinus falciformis* (amended version of 2017 assessment). *The IUCN Red List of Threatened Species* 2021: e.T39370A205782570. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T39370A205782570.en. Accessed on 20 May 2024.
[116] *Id.*

Smooth Hammerhead Shark

Sphyrna zygaena is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on actual or potential levels of exploitation.[117] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii).

Sphyrna zygaena is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its fins, but also for its skin, liver, meat, cartilage and oil.[118]

Spiny Dogfish

Squalus acanthias is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on actual or potential levels of exploitation.[119] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii).

Squalus acanthias is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its flesh, fins and oil.[120]

Spotted Eagle Ray

Aetobatus ocellatus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 50% based in part on actual or potential levels of exploitation.[121] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii).

Also, *Aetobatus ocellatus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its meat, cartilage and skin, as well as for the aquarium trade.[122]

---

[117] Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Herman, K., Jabado, R.W., Liu, K.M., Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2019. *Sphyrna zygaena*. *The IUCN Red List of Threatened Species* 2019: e.T39388A2921825. https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T39388A2921825.en. Accessed on 20 May 2024.

[118] *Id.*

[119] Finucci, B., Cheok, J., Chiaramonte, G.E., Cotton, C.F., Dulvy, N.K., Kulka, D.W., Neat, F.C., Pacoureau, N., Rigby, C.L., Tanaka, S. & Walker, T.I. 2020. *Squalus acanthias*. *The IUCN Red List of Threatened Species* 2020: e.T91209505A124551959. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T91209505A124551959.en. Accessed on 20 May 2024.

[120] *Id.*

[121] Kyne, P.M., Dudgeon, C.L., Ishihara, H., Dudley, S.F.J. & White, W.T. 2016. *Aetobatus ocellatus*. *The IUCN Red List of Threatened Species* 2016: e.T42566169A42566212. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T42566169A42566212.en. Accessed on 20 May 2024.

[122] *Id.*

Spotted Turtle

Clemmys guttata (Spotted Turtle) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2cde and A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of at least 50% observed, estimated, inferred, or suspected over a past and future time period.[123] The *IUCN Red List of Threatened Species* identifies the international pet trade as a threat to the species.[124]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion C(ii)(a)-(d) and because it is or may be affected by trade.

Sparrow's-egg Lady's-slipper

Cypripedium passerinum (Sparrow's-egg Lady's-slipper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria B2bc, and C2b of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occupancy of less than 2,000 km² a continuing decline observed, estimated, inferred or projected in area of occupancy, area extent and/or quality of habitat, and number of mature individuals, and extreme fluctuations in the number of mature individuals; and due to an observed, estimated, projected or inferred continuing decline and an extreme fluctuations in the number of mature individuals.[125] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for horticulture or medicinal purposes, noting that plant collection for both uses constitutes a major threat.[126]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria A(iv) and B(ii and iv), and because it is or may be affected by trade.

Squaretail Coralgrouper

Plectropomus areolatus (Squaretail coralgrouper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the past where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on actual or potential levels of exploitation.[127] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial fishing for food.[128]

---

[123] van Dijk, P.P. 2011. *Clemmys guttata* (errata version published in 2016). *The IUCN Red List of Threatened Species* 2011: e.T4968A97411228. https://dx.doi.org/10.2305/IUCN.UK.20111.RLTS.T4968A11103766.en. Downloaded on 04 May 2021.

[124] *Id*.

[125] Rankou, H. 2014. *Cypripedium passerinum*. *The IUCN Red List of Threatened Species* 2014: e.T43316819A43327709. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T43316819A43327709.en. Downloaded on 03 May 2021.

[126] *Id*.

[127] Rhodes, K. 2018. *Plectropomus areolatus* (errata version published in 2021). *The IUCN Red List of Threatened Species* 2018: e.T64411A192479585. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T64411A192479585.en. Downloaded on 03 May 2021.

[128] *Id*.

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Staghorn Coral (*A. acuminata*)

Acropora acuminata (Staghorn coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[129] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[130]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Staghorn Coral (*A. aspera*)

Acropora aspera (Staghorn coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[131] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[132]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Staghorn Coral (*A. horrida*)

Acropora horrida (Staghorn coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future

---

[129] Richards, Z.T., Delbeek, J.T., Lovell, E.R., Bass, D., Aeby, G. & Reboton, C. 2014. *Acropora acuminata*. *The IUCN Red List of Threatened Species* 2014: e.T132940A54164079. https://dx.doi.org/10.2305/IUCN.UK.20141.RLTS.T132940A54164079.en. Downloaded on 04 May 2021.

[130] *Id*.

[131] Aeby, G., Delbeek, J.T., Lovell, E.R., Richards, Z.T., Reboton, C. & Bass, D. 2014. *Acropora aspera*. *The IUCN Red List of Threatened Species* 2014: e.T133132A54200688. https://dx.doi.org/10.2305/IUCN.UK.20141.RLTS.T133132A54200688.en. Downloaded on 04 May 2021.

[132] *Id*.

based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[133] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[134]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Staghorn Coral (*A. paniculata*)

Acropora paniculata (Staghorn coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[135] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[136]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Staghorn Coral (*A. polystoma*)

Acropora polystoma (Staghorn coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[137] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[138]

---

[133] Richards, Z., Delbeek, J.C., Lovell, E., Bass, D., Aeby, G. & Reboton, C. 2008. *Acropora horrida*. *The IUCN Red List of Threatened Species* 2008: e.T133319A3687166. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133319A3687166.en.

[134] *Id.*

[135] Richards, Z., Delbeek, J.C., Lovell, E., Bass, D., Aeby, G. & Reboton, C. 2008. *Acropora paniculata*. *The IUCN Red List of Threatened Species* 2008: e.T132972A3516341. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T132972A3516341.en. Downloaded on 04 May 2021.

[136] *Id*.

[137] Richards, Z., Delbeek, J.C., Lovell, E., Bass, D., Aeby, G. & Reboton, C. 2008. *Acropora polystoma*. *The IUCN Red List of Threatened Species* 2008: e.T133647A3845401. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133647A3845401.en.

[138] *Id.*

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Staghorn Coral (*A. vaughani*)

Acropora vaughani (Staghorn coral) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat, and effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[139] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for pets or display animals.[140]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Surf Redfish

Actinopyga mauritiana (Surf redfish) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of more than 30% in the past where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on actual or potential levels of exploitation.[141] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial and subsistence fishing for food.[142]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Tarpon

Megalops atlanticus (Tarpon) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion A2bd of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the past, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction, based in part on

---

[139] Richards, Z.T., Delbeek, J.T., Lovell, E.R., Bass, D., Aeby, G. & Reboton, C. 2014. *Acropora vaughani*. *The IUCN Red List of Threatened Species* 2014: e.T133025A54179867. https://dx.doi.org/10.2305/IUCN.UK.20141.RLTS.T133025A54179867.en. Downloaded on 04 May 2021.

[140] *Id*.

[141] Conand, C., Purcell, S. & Gamboa, R. 2013. *Actinopyga mauritiana*. *The IUCN Red List of Threatened Species* 2013: e.T180337A1616879. https://dx.doi.org/10.2305/IUCN.UK.20131.RLTS.T180337A1616879.en. Downloaded on 04 May 2021.

[142] *Id*.

actual or potential levels of exploitation, based in part on actual or potential levels of exploitation.[143] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for sport fishing and some artisanal and commercial fisheries for food.[144]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(i and ii) and because it is or may be affected by trade.

Thorny Seahorse

Hippocampus histrix (Thorny seahorse) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion A2cd and A4cd of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of more than 30% observed, estimated, inferred, or suspected in the past or where the time period must include both the past and the future, based in part on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk of extinction.[145] The *IUCN Red List of Threatened Species* identifies broad international use and trade for pets or display animals, handicrafts and jewelry, or medicinal use.[146]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Thorny Skate

Amblyraja radiata is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on actual or potential levels of exploitation.[147] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii).

Amblyraja radiata is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for its meat.[148]

---

[143] Adams, A., Guindon, K., Horodysky, A., MacDonald, T., McBride, R., Shenker, J. & Ward, R. 2019. *Megalops atlanticus* (errata version published in 2020). *The IUCN Red List of Threatened Species* 2019: e.T191823A174796143. https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T191823A174796143.en. Downloaded on 03 May 2021.

[144] *Id*.

[145] Pollom, R. 2017. *Hippocampus histrix*. *The IUCN Red List of Threatened Species* 2017: e.T10070A54905206. https://dx.doi.org/10.2305/IUCN.UK.2017-3.RLTS.T10070A54905206.en. Downloaded on 03 May 2021.

[146] *Id*.

[147] Kulka, D.W., Ellis, J., Anderson, B., Cotton, C.F., Derrick, D., Pacoureau, N. & Dulvy, N.K. 2020. *Amblyraja radiata*. *The IUCN Red List of Threatened Species* 2020: e.T161542A124503504. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T161542A124503504.en. Accessed on 20 May 2024.

[148] *Id.*

Two-Keeled Hooded Orchid

Galeandra bicarinata (Two-Keeled Hooded Orchid) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion B2ab(iii) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occupancy of less than 500 km^2 and severely fragmented habitat or number of locations and continuing observed, estimated, inferred, or projected decline in area, extent and/or quality of habitat.[149] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for collection or horticulture and notes collection of the species as an ongoing threat.[150]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion A, B(i) and B(iv)(b) and because it is or may be affected by trade.

Vermilion Snapper

Rhomboplites aurorubens (Vermilion Snapper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criterion A2bd of the *Guidelines for Using the IUCN Red List of Categories and Criteria* due to a population reduction of at least 30% observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased or may not be understood or may not be reversible, thus increasing the risk of extinction.[151] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for food, noting that it is targeted in commercial fisheries and that large-scale intentional harvest is an ongoing threat.[152]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii), and because it is or may be affected by trade.

Whale Shark

Rhincodon typus (Whale Shark) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criteria A2bd and A4bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of at least 50% observed, estimated, inferred, or suspected over a past and future time period.[153] The *IUCN Red List of Threatened Species* identifies international use and trade in the species.[154] Further, recent surveys have

---

[149] Treher, A., Sharma, J., Frances, A. & Poff, K. 2015. *Galeandra bicarinata*. *The IUCN Red List of Threatened Species* 2015: e.T64175965A64175968. https://dx.doi.org/10.2305/IUCN.UK.20154.RLTS.T64175965A64175968.en. Downloaded on 27 April 2021.

[150] *Id.*

[151] Lindeman, K., Anderson, W., Claro, R., Cowan, J., Padovani-Ferreira, B., Rocha, L.A. & Sedberry, G. 2016. *Rhomboplites aurorubens*. *The IUCN Red List of Threatened Species* 2016: e.T190138A1941553. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T190138A1941553.en. Downloaded on 03 May 2021.

[152] *Id.*

[153] Pierce, S.J. & Norman, B. 2016. *Rhincodon typus*. *The IUCN Red List of Threatened Species* 2016: e.T19488A2365291. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T19488A2365291.en. Downloaded on 04 May 2021.

[154] *Id*.

reported that *Rhincodon typus* fins are now demanding high prices and have been seen in Hong Kong markets.[155] Trade in live species has also been noted in Taiwan and mainland China.[156]

Rhincodon typus qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion C(ii) and because it is or may be affected by trade.

Winter Skate

Leucoraja ocellata (Winter Skate) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of at least 50% observed, estimated, inferred, or suspected in the past.[157] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for food, with ongoing largescale intentional harvest as a threat.[158]

Leucoraja ocellata qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criterion C(ii) and because it is or may be affected by trade.

Yellowfin Grouper (Gulf of Mexico)

Mycteroperca venenosa (Yellowfin Grouper) (Gulf of Mexico) is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criterion A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a population reduction of at least 50% observed, estimated, inferred, or suspected in the past.[159] The IUCN Red *List of Threatened Species* identifies large scale commercial fishing as a key threat to the species.[160]

Mycteroperca venenosa qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

Yellowmouth Grouper

Mycteroperca interstitialis (Yellowmouth grouper) is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A4bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of more than 30% where the time period must include both the past and the future based in part on actual or potential levels of exploitation, where the causes of the decline may not have ceased, may not be understood, or may not be reversible, thus increasing the risk

---

[155] *Id*.
[156] *Id*.
[157] Kulka, D.W., Anderson, B., Cotton, C.F., Derrick, D., Pacoureau, N. & Dulvy, N.K. 2020. *Leucoraja ocellata*. *The IUCN Red List of Threatened Species* 2020: e.T161631A124518400. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T161631A124518400.en. Downloaded on 04 May 2021.
[158] *Id*.
[159] Carpenter, K.E., Claro, R., Sedberry, G. & Zapp-Sluis, M. 2015. *Mycteroperca venenosa*. *The IUCN Red List of Threatened Species* 2015: e.T44683A70330195. Downloaded on 04 May 2021.
[160] *Id*.

of extinction.[161] The *IUCN Red List of Threatened Species* identifies international use and trade of the species for commercial and artisanal fishing for food.[162]

The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically criteria C(ii) and because it is or may be affected by trade.

B. Species Imported into the United States Qualifying for Listing on Appendix I

We examined the status of species identified as facing a high risk of extinction on the *IUCN Red List* for which the United States is an importer, the criteria for amendment of Appendices I and II in CITES Resolution Conf. 9.24 (Rev. CoP17), and additional analysis specific to identifying species that are likely to be threatened by international trade.[163] Based on that examination, we identified the following imported species that meet the CITES criteria for listing on Appendix I and urge the Service to propose these species for listing on Appendix I at CoP20.

We used Law Enforcement Management Information System (LEMIS) data for this analysis, which was obtained by the Center following a lawsuit. The data covers shipments documented from 2016 to 2020. The data produced by FWS contains numerous and often substantial redactions under Exemption 4, as well as various withholdings of individuals' names. Given the substantial Exemption 4 withholdings from this LEMIS data, the species identified (and quantities in trade) are likely higher than our analysis reveals. We encourage FWS to routinely release the LEMIS data in full to aid in conservation of species, but stress that this information is particularly critical in the run-up to CITES CoPs as it is widely used by CITES Parties and Observers to document species that are or may be affected by trade.

Leopard fringe-fingered lizard

Acanthodactylus pardalis is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2c and B1ab(i,ii,iii) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; or effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites and a decline in the area of occurrence; severe fragmentation, and continuing decline observed, estimated, inferred or projected in the extent of occurrence; area of occupancy; or area, extent and/or quality of habitat.[164] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:

---

[161] Padovani-Ferreira, B., Bertoncini, A.A. & Craig, M.T. 2018. *Mycteroperca interstitialis*. *The IUCN Red List of Threatened Species* 2018: e.T64410A46915949. https://dx.doi.org/10.2305/IUCN.UK.20182.RLTS.T64410A46915949.en. Downloaded on 03 May 2021.

[162] *Id*.

[163] *See Id*.

Böhme, W. & El Din, S.B. 2006. Acanthodactylus pardalis. The IUCN Red List of Threatened Species 2006: e.T61460A12471786. https://dx.doi.org/10.2305/IUCN.UK.2006.RLTS.T61460A12471786.en. Accessed on 17 May 2024.

ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Acanthodactylus pardalis* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be hunted and trapped as well as impacted by a multitude of anthropogenic pressures.[165]

Siberian Sturgeon
Acipenser baerii is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 50% based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Acipenser baerii* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for caviar and meat.[166]

Russian Sturgeon
Acipenser gueldenstaedtii is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2bcde of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 80% based in part on actual or potential levels of exploitation.[167] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;

[165] Id.
[166] Ruban, G. & Mugue, N. 2022. *Acipenser baerii*. *The IUCN Red List of Threatened Species* 2022: e.T244A156718817. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T244A156718817.en. Accessed on 03 May 2024.
[167]

– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Acipenser gueldenstaedtii* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for caviar, meat and other products.[168]

Sterlet

Acipenser ruthenus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2cde of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part on actual or potential levels of exploitation.[169] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Acipenser ruthenus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for food and caviar, medicine, and the ornamental fish trade.[170]

Sakhalin Sturgeon

Acipenser schrenckii is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 80% based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;

[168] Gessner, J., Freyhof, J. & Kottelat, M. 2022. *Acipenser gueldenstaedtii*. *The IUCN Red List of Threatened Species* 2022: e.T232A135063140. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T232A135063140.en. Accessed on 02 May 2024.

[169] Gessner, J., Freyhof, J., Kottelat, M. & Friedrich, T. 2022. *Acipenser ruthenus*. *The IUCN Red List of Threatened Species* 2022: e.T227A135062526. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T227A135062526.en. Accessed on 10 May 2024.

[170] Id.

– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Acipenser schrenckii* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for human consumption.[171]

Stellate Sturgeon

Acipenser stellatus is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2bcde of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 80% based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Acipenser stellatus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for meat and caviar.[172]

Staghorn and Elkhorn Corals

Twenty-one species of *Acropora* that are imported into the U.S. are classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2c, d, and e of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; actual or potential levels of exploitation; or effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, noted in table below.[173] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:

[171] Qiwei, W. & Mugue, N. 2022. *Acipenser schrenckii* (errata version published in 2023). *The IUCN Red List of Threatened Species* 2022: e.T228A227579879. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T228A227579879.en. Accessed on 02 May 2024.

[172] Mugue, N., Friedrich, T., Chebanov, M. & Ruban, G. 2022. *Acipenser stellatus*. *The IUCN Red List of Threatened Species* 2022: e.T229A135062806. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T229A135062806.en. Accessed on 02 May 2024.

[173] See generally IUCN. 2023. The IUCN Red List of Threatened Species. Version 2023-1. https://www.iucnredlist.org.

ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Acropora* species are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. They are known to be used for the global aquarium trade.[174] Many other *Acropora* species are known or thought to be in international trade, and a genus level or other higher taxonomic listing may be warranted.

Species	IUCN Criteria	IUCN Status	CITES Status
ACROPORA ABROLHOSENSIS	A4cde	VU	II
ACROPORA ACULEUS	A4ce	VU	II
ACROPORA ACUMINATA	A4ce	VU	II
ACROPORA ASPERA	A4ce	VU	II
ACROPORA CAROLINIANA	A4ce	VU	II
ACROPORA DESALWII	A4ce	VU	II
ACROPORA ECHINATA	A4cde	VU	II
ACROPORA ELEGANS	A4cde	VU	II
ACROPORA HORRIDA	A4cde	VU	II
ACROPORA JACQUELINEAE	A4ce	VU	II
ACROPORA KIMBEENSIS	A4cde	VU	II
ACROPORA LOISETTEAE	A4ce	VU	II
ACROPORA LOKANI	A4ce	VU	II
ACROPORA MICROCLADOS	A4ce	VU	II
ACROPORA MULTIACUTA	A4ce	VU	II
ACROPORA PANICULATA	A4ce	VU	II
ACROPORA POLYSTOMA	A4ce	VU	II
ACROPORA TENELLA	A4ce	VU	II
ACROPORA TURAKI	A4ce	VU	II
ACROPORA VAUGHANI	A4ce	VU	II
ACROPORA VERWEYI	A4ce	VU	II

Acropora suharsonoi

Acropora suharsonoi is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A4ce of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected, or suspected population reduction of 50% in the past and future based in part on effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites. The species qualifies for listing on Appendix I of

[174] Id.

CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Acropora suharsonoi* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be collected for the aquarium trade.[175]

European Eel

Anguilla anguilla is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd+4bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 80% in the past and future based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Anguilla anguilla* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for farming and consumption at various life stages.[176]

Japanese Eel

Anguilla japonica is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 50% in the

[175] Aeby, G., Lovell, E., Richards, Z., Delbeek, J.C., Reboton, C. & Bass, D. 2008. *Acropora suharsonoi*. *The IUCN Red List of Threatened Species* 2008: e.T133254A3656302. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133254A3656302.en. Accessed on 03 May 2024.

[176] Pike, C., Crook, V. & Gollock, M. 2020. *Anguilla anguilla*. *The IUCN Red List of Threatened Species* 2020: e.T60344A152845178. https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T60344A152845178.en. Accessed on 02 May 2024.

past based in part on actual or potential levels of exploitation.[177] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Anguilla japonica* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for farming and human consumption.[178]

American Eel
Anguilla rostrata is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part on actual or potential levels of exploitation.[179] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Anguilla rostrata* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for farming and human consumption at various live stages.[180]

Japanese Spikey Sea Cucumber
Apostichopus japonicus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and*

[177] Pike, C., Kaifu, K., Crook, V., Jacoby, D. & Gollock, M. 2020. *Anguilla japonica* (amended version of 2020 assessment). *The IUCN Red List of Threatened Species* 2020: e.T166184A176493270. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T166184A176493270.en. Accessed on 09 May 2024.
[178] Id.
[179] Pike, C., Casselman, J., Crook, V., DeLucia, M.-B., Jacoby, D. & Gollock, M. 2023. *Anguilla rostrata*. *The IUCN Red List of Threatened Species* 2023: e.T191108A129638652. https://dx.doi.org/10.2305/IUCN.UK.2023-1.RLTS.T191108A129638652.en. Accessed on 09 May 2024.
[180] Id.

Criteria due an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part on actual or potential levels of exploitation.[181] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Apostichopus japonicus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for human consumption.[182]

Steppe Eagle
Aquila nipalensis is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2abcd+3bcd+4abcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected, or suspected population reduction of 50% in the past and/or future based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Aquila nipalensis* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be kept for display purposes.[183]

Hog Deer
Axis porcinus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part

[181] Hamel, J.-F. & Mercier, A. 2013. *Apostichopus japonicus*. *The IUCN Red List of Threatened Species* 2013: e.T180424A1629389. https://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T180424A1629389.en. Accessed on 09 May 2024.
[182] Id.
[183] BirdLife International. 2021. *Aquila nipalensis*. *The IUCN Red List of Threatened Species* 2021: e.T22696038A205452572. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T22696038A205452572.en. Accessed on 03 May 2024.

on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Axis porcinus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for meat, traditional medicine products, and trophies.[184]

Long-tailed Parakeet
Belocercus longicaudus is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2cd+3cd+4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future where the causes of reduction may not have creased or may not be understood or may not be reversible based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality or actual or potential levels of exploitation.[185] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Belocercus longicaudus* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be hunted for the cage bird trade.[186]

[184] Timmins, R., Duckworth , J.W., Samba Kumar, N., Anwarul Islam, M., Sagar Baral, H., Long, B. & Maxwell, A. 2015. *Axis porcinus*. *The IUCN Red List of Threatened Species* 2015: e.T41784A22157664. https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T41784A22157664.en. Accessed on 03 May 2024.
BirdLife International. 2018. Psittacula longicauda. The IUCN Red List of Threatened Species 2018: e.T22685513A131365116. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22685513A131365116.en. Accessed on 17 May 2024.
[186] Id.

White-seam Betta

Betta albimarginata is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria B2ab(v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occupancy which is severely fragmented or a small number of locations, and an observed, estimated, inferred, or projected decline in the number of mature individuals.[187] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph B(i and iv):

B. The wild population has a restricted area of distribution and is characterized by at least one of the following:
    i) fragmentation or occurrence at very few locations;
    iv) an observed, inferred or projected decrease in any one of the following:
        – the area of distribution;
        – the area of habitat;
        – the number of subpopulations;
        – the number of individuals;
        – the quality of habitat; or
        – the recruitment.
        – a decreasing recruitment.

Also, *Betta albimarginata* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for the aquarium trade.[188]

Spotfin betta

Betta macrostoma is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria B1ab(iii,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a decline in the area of occurrence, severe fragmentation, and continuing decline observed, estimated, inferred or projected in the area, extent and/or quality of habitat and number of mature individuals.[189] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
    ii) inferred or projected on the basis of any one of the following:
        – a decrease in area of habitat;
        – a decrease in quality of habitat;
        – levels or patterns of exploitation;
        – a high vulnerability to either intrinsic or extrinsic factors; or
        – a decreasing recruitment.

---

[187] Low, B.W. 2019. *Betta albimarginata*. *The IUCN Red List of Threatened Species* 2019: e.T91307122A91307128. https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T91307122A91307128.en. Accessed on 09 May 2024.

[188] Id.

Low, B.W. 2019. Betta macrostoma. The IUCN Red List of Threatened Species 2019: e.T2782A90332155. https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T2782A90332155.en. Accessed on 18 May 2024.

Also, *Betta macrostoma* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be part of the aquarium trade.[190]

Sim's betta

Betta simorum is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria B2ab(iii,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a decline in the area of occupancy, severe fragmentation, and continuing decline observed, estimated, inferred or projected in the area, extent and/or quality of habitat and number of mature individuals.[191] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Betta simorum* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be part of the ornamental fish trade.[192]

Mexican Redrump Tarantula

Brachypelma baumgarteni is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria B1ab(i,ii,iii,iv,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occurrence less than 20,000 km^2 that is severely fragmented or a has 10 or fewer locations, and an observed, estimated, inferred, or projected decline in extent of occurrence; area of occupancy; area, extent and/or quality of habitat; number of locations or subpopulations; or number of mature individuals.[193] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph B(i and iv):

B. The wild population has a restricted area of distribution and is characterized by at least one of the following:
i) fragmentation or occurrence at very few locations;
iv) an observed, inferred or projected decrease in any one of the following:
– the area of distribution;
– the area of habitat;

---

[190] Id.
Low, B.W. 2019. Betta simorum. The IUCN Red List of Threatened Species 2019: e.T91310746A91310751. https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T91310746A91310751.en. Accessed on 18 May 2024.
[192] Id.
[193] Fukushima, C., Mendoza, J., West, R., Longhorn, S., Rivera Téllez, E., Cooper, E.W.T., Henriques, S. & Cardoso, P. 2019. *Brachypelma baumgarteni* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2019: e.T66081548A148681336. https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T66081548A148681336.en. Accessed on 20 May 2024.

– the number of subpopulations;
– the number of individuals;
– the quality of habitat; or
– the recruitment.

Also *Brachypelma baumgarteni* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for the pet trade.[194]

Mexican Fireleg Tarantula
Brachypelma boehmei is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occurrence less than 20,000 km^2 that is severely fragmented or a has 10 or fewer locations, and an observed, estimated, inferred, or projected decline in extent of occurrence; area of occupancy; area, extent and/or quality of habitat; number of locations or subpopulations; or number of mature individuals.[195] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph B(i and iv):

B. The wild population has a restricted area of distribution and is characterized by at least one of the following:
i) fragmentation or occurrence at very few locations;
iv) an observed, inferred or projected decrease in any one of the following:
– the area of distribution;
– the area of habitat;
– the number of subpopulations;
– the number of individuals;
– the quality of habitat; or
– the recruitment.

Also *Brachypelma boehmei* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for the pet trade.[196]

Mexican Redknee Tarantula
Brachypelma hamorii is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria B1ab(i,ii,iii,iv,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occurrence less than 20,000 km^2 that is severely fragmented or a has 10 or fewer locations, and an observed, estimated, inferred, or projected decline in extent of occurrence; area of occupancy; area, extent and/or quality of habitat; number of locations or

[194] Id.
[195] Fukushima, C., Mendoza, J., West, R., Longhorn, S., Rivera Téllez, E., Cooper, E.W.T., Henriques, S. & Cardoso, P. 2019. *Brachypelma boehmei* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2019: e.T66081558A148681774. https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T66081558A148681774.en. Accessed on 20 May 2024.
[196] Id.

subpopulations; or number of mature individuals.[197] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph B(i and iv):

B. The wild population has a restricted area of distribution and is characterized by at least one of the following:
i) fragmentation or occurrence at very few locations;
iv) an observed, inferred or projected decrease in any one of the following:
– the area of distribution;
– the area of habitat;
– the number of subpopulations;
– the number of individuals;
– the quality of habitat; or
– the recruitment.

Also, *Brachypelma hamorii* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for the pet trade.[198]

Mexican Blackvelvet Tarantula
Brachypelma schroederi is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria B1ab(i,ii,iii,iv,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a decline in the area of occurrence, severe fragmentation, and continuing decline observed, estimated, inferred or projected in extent of occurrence; area of occupancy; area, extent and/or quality of habitat; number of locations or subpopulations; and number of mature individuals. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph A(i) and B(i and iv):

A. The wild population is small, and is characterized by at least one of the following:
i) an observed, inferred or projected decline in the number of individuals or the area and quality of habitat;
B. The wild population has a restricted area of distribution and is characterized by at least one of the following:
i) fragmentation or occurrence at very few locations;
iv) an observed, inferred or projected decrease in any one of the following:
– the area of distribution;
– the area of habitat;
– the number of subpopulations;
– the number of individuals;
– the quality of habitat; or
– the recruitment.

[197] Fukushima, C., Mendoza, J., West, R., Longhorn, S., Rivera Téllez, E., Cooper, E.W.T., Henriques, S. & Cardoso, P. 2019. *Brachypelma hamorii* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2019: e.T66081800A148726332. https://dx.doi.org/10.2305/IUCN.UK.2019-1.RLTS.T66081800A148726332.en. Accessed on 10 May 2024.
[198] Id.

– a decreasing recruitment.

Also, *Brachypelma schroederi* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be kept for use as pets and display animals.[199]

Dwarf Chameleon

Bradypodion thamnobates is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria B1ab(ii,iii,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a decline in the area of occurrence, severe fragmentation, and continuing decline observed, estimated, inferred or projected in area of occupancy; area, extent and/or quality of habitat; and number of mature individuals.[200] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph A(i) and B(i and iv):

A. The wild population is small, and is characterized by at least one of the following:
    i) an observed, inferred or projected decline in the number of individuals or the area and quality of habitat;
B. The wild population has a restricted area of distribution and is characterized by at least one of the following:
    i) fragmentation or occurrence at very few locations;
    iv) an observed, inferred or projected decrease in any one of the following:
        – the area of distribution;
        – the area of habitat;
        – the number of subpopulations;
        – the number of individuals;
        – the quality of habitat; or
        – the recruitment.
        – a decreasing recruitment.

Also, *Bradypodion thamnobates* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be kept for use as pets and display animals.[201]

Silky Shark

Carcharhinus falciformis is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based

[199] Fukushima, C., Mendoza, J., West, R., Longhorn, S., Rivera Téllez, E., Cooper, E.W.T., Henriques, S. & Cardoso, P. 2019. *Brachypelma schroederi* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2019: e.T66082166A148727756. https://dx.doi.org/10.2305/IUCN.UK.2019-1.RLTS.T66082166A148727756.en. Accessed on 03 May 2024.

[200] Tolley, K.A. 2022. *Bradypodion thamnobates*. *The IUCN Red List of Threatened Species* 2022: e.T3017A197397461. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T3017A197397461.en. Accessed on 21 May 2024.

[201] *Id.*

in part on actual or potential levels of exploitation.[202] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Carcharhinus falciformis* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for human consumption and the fins are taken for the shark fin trade, among other uses.[203]

Sand Tiger Shark

Carcharias taurus is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 80% in the past based in part on an index of abundance appropriate to the taxon or actual or potential levels of exploitation.[204] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Carcharias taurus* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be consumed for their meat and to be in the global fin trade.[205]

---

[202] Fukushima, C., Mendoza, J., West, R., Longhorn, S., Rivera Téllez, E., Cooper, E.W.T., Henriques, S. & Cardoso, P. 2019. *Brachypelma hamorii* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2019: e.T66081800A148726332. https://dx.doi.org/10.2305/IUCN.UK.2019-1.RLTS.T66081800A148726332.en. Accessed on 10 May 2024.

[203] Id.

Rigby, C.L., Carlson, J., Derrick, D., Dicken, M., Pacoureau, N. & Simpfendorfer, C. 2021. Carcharias taurus. The IUCN Red List of Threatened Species 2021: e.T3854A2876505. https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T3854A2876505.en. Accessed on 18 May 2024.

[205] Id.

White Shark

Carcharodon carcharias is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on actual or potential levels of exploitation.[206] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Carcharodon carcharias* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known for its valuable fins and jaws and small white shark fins are present in the international fin trade.[207]

Pig-nosed Turtle

Carettochelys insculpta is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd+4bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected, or suspected population reduction of 50% in the past and future based in part on actual or potential levels of exploitation.[208] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Herman, K., Jabado, R.W., Jones, G.C.A., Liu, K.M., Lowe, C.G, Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2022. Carcharodon carcharias (amended version of 2019 assessment). The IUCN Red List of Threatened Species 2022: e.T3855A212629880. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T3855A212629880.en. Accessed on 18 May 2024.

[207] Id.

[208] Eisemberg, C., van Dijk, P.P., Georges, A. & Amepou, Y. 2018. *Carettochelys insculpta*. *The IUCN Red List of Threatened Species* 2018: e.T3898A2884984. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T3898A2884984.en. Accessed on 03 May 2024.

Also, *Carettochelys insculpta* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for food and kept for use as pets and display animals.[209]

Cardinal Shrimp

Caridina dennerli is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2e of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 80% in the past based in part on effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Caridina dennerli* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be found in the international aquarium trade.[210]

Elegance Coral

Catalaphyllia jardinei is classified as "Vulnerable" on the *IUCN Red List of Threatened species under* criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and/or future based in part on actual or potential levels of exploitation.[211] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

[209] *Id.*

[210] von Rintelen, K. 2018. *Caridina dennerli*. *The IUCN Red List of Threatened Species* 2018: e.T198055A109683594. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T198055A109683594.en. Accessed on 02 May 2024.
Turak, E., Sheppard, C. & Wood, E. 2008. *Catalaphyllia jardinei*. *The IUCN Red List of Threatened Species* 2008: e.T132890A3479919. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T132890A3479919.en. Accessed on 20 May 2024.

Also, *Catalaphyllia jardinei* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for the aquarium trade.[212]

Napoleon (Giant) Wrasse

Cheilinus undulatus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd+3bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected, or suspected population reduction of 50% in the past or future based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Cheilinus undulatus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used heavily for food and occasionally for the aquarium trade.[213]

Great Curassow

Crax rubra is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2cd+3cd+4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future where the causes of reduction may not have creased or may not be understood or may not be reversible based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality or actual or potential levels of exploitation.[214] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;

[212] Id.
[213] Russell, B. (Grouper & Wrasse Specialist Group). 2004. *Cheilinus undulatus*. *The IUCN Red List of Threatened Species* 2004:
e.T4592A11023949. https://dx.doi.org/10.2305/IUCN.UK.2004.RLTS.T4592A11023949.en. Accessed on 03 May 2024.
BirdLife International. 2020. Crax rubra. The IUCN Red List of Threatened Species 2020:
e.T22678521A178001922. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T22678521A178001922.en. Accessed on 17 May 2024.

– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Crax rubra* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for food and to be part of the international pet trade.[215]

Senegal Flapshell Turtle

Cyclanorbis senegalensis is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bcd+4bcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on an index of abundance appropriate to the taxon; a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; or actual or potential levels of exploitation.[216] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Cyclanorbis senegalensis* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be traded in the international pet trade.[217]

Mekong tiger perch

Datnioides undecimradiatus is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2d of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on actual or potential levels of exploitation.[218] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:

[215] Id.
Diagne, T., Luiselli, L., Trape, J.-F., Rödel, M.-O., Baker, P.J., Chirio, L., Petrozzi, F. & Segniagbeto, G. 2016. Cyclanorbis senegalensis. The IUCN Red List of Threatened Species 2016: e.T6005A96447114. https://dx.doi.org/10.2305/IUCN.UK.2016-2.RLTS.T6005A96447114.en. Accessed on 18 May 2024.
[217] Id.
Baird, I. 2011. Datnioides undecimradiatus (errata version published in 2020). The IUCN Red List of Threatened Species 2011: e.T180679A174793802. https://dx.doi.org/10.2305/IUCN.UK.2011-1.RLTS.T180679A174793802.en. Accessed on 18 May 2024.

– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Datnioides undecimradiatus* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be consumed for their meat and to be in the international aquarium trade.[219]

Red-headed rat snake
Elaphe moellendorffi is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2d of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on actual or potential levels of exploitation.[220] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Elaphe moellendorffi* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be traded internationally for medicinal purposes.[221]

White-bellied Snapping Turtle
Elseya branderhorsti is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria B1+2e of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a decline in the area of occurrence and area of occupancy.....[222] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:

[219] Id.
Zhou, Z., Lau, M. & Nguyen, T.Q. 2012. Orthriophis moellendorfi. The IUCN Red List of Threatened Species 2012: e.T192040A2031924. https://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T192040A2031924.en. Accessed on 18 May 2024.
[221] Id.
Asian Turtle Trade Working Group. 2000. Elseya branderhorsti (errata version published in 2016). The IUCN Red List of Threatened Species 2000: e.T39623A97267120.
https://dx.doi.org/10.2305/IUCN.UK.2000.RLTS.T39623A10252261.en. Accessed on 18 May 2024.

– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Elseya branderhorsti* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be hunted for consumption and to be part of the international live animal trade.[223]

Brown-marbled Grouper

Epinephelus fuscoguttatus is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd+4bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future where the causes of reduction may not have creased or may not be understood or may not be reversible based in part on an index of abundance appropriate to the taxon or actual or potential levels of exploitation.[224] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Epinephelus fuscoguttatus* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be traded internationally for human consumption.[225]

Phantasmal Poison Frog

Epipedobates tricolor is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria B1ab(iii) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a decline in the area of occurrence, severe fragmentation, and continuing decline observed, estimated, inferred or projected in the area, extent and/or quality of habitat.[226] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

[223] Id.
Rhodes, K., Sadovy, Y. & Samoilys, M. 2018. Epinephelus fuscoguttatus. The IUCN Red List of Threatened Species 2018: e.T44673A100468078. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T44673A100468078.en. Accessed on 18 May 2024.
[225] Id.
IUCN SSC Amphibian Specialist Group. 2019. Epipedobates tricolor. The IUCN Red List of Threatened Species 2019: e.T55239A98647137. https://dx.doi.org/10.2305/IUCN.UK.2019-1.RLTS.T55239A98647137.en. Accessed on 18 May 2024.

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Epipedobates tricolor* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be traded for medicinal purposes and as part of the international pet trade.[227]

Large-Polyped Stony Corals

Four species of the genus *Euphyllia*[228] that are imported into the U.S. are classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2 c, d, and e of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; actual or potential levels of exploitation, or effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites noted in table below.[229] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Euphyllia* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. They are known to be used for the global aquarium trade.[230] Many other *Euphyllia* species are known or thought to be in international trade, and a genus level or other higher taxonomic listing may be warranted.

Species	IUCN Criteria	IUCN Status	CITES Status
EUPHYLLIA ANCORA	A2cd	VU	II
EUPHYLLIA CRISTATA	A4cd	VU	II

[227] Id.
[228] The genus has been renamed *Fimbriaphyllia.*
[229] See generally IUCN. 2023. The IUCN Red List of Threatened Species. Version 2023-1. https://www.iucnredlist.org.
[230] Id.

EUPHYLLIA PARAANCORA	A4ce	VU	II
EUPHYLLIA PARADIVISA	A4ce	VU	II

Star Coral

Galaxea astreata is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and/or future based in part on actual or potential levels of exploitation.[231] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Galaxea astreata* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for the aquarium trade.[232]

Goitered Gazelle

Gazella subgutturosa is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2acd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% in the past based in part on direct observation; the decline in area of occupancy, extent of occurrence and/or habitat quality; or actual or potential levels of exploitation.[233] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Hoeksema, B., Rogers, A. & Quibilan, M. 2008. *Galaxea astreata*. *The IUCN Red List of Threatened Species* 2008: e.T133354A3704161. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133354A3704161.en. Accessed on 20 May 2024.

[232] Id.

IUCN SSC Antelope Specialist Group. 2017. Gazella subgutturosa. The IUCN Red List of Threatened Species 2017: e.T8976A50187422. https://dx.doi.org/10.2305/IUCN.UK.2017-2.RLTS.T8976A50187422.en. Accessed on 18 May 2024.

Also, *Gazella subgutturosa* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be hunted for their skins, meat, and for trophies.[234]

Long-tentacled Plate Coral

Heliofungia actiniformis is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and/or future based in part on actual or potential levels of exploitation.[235] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Heliofungia actiniformis* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for the aquarium trade.[236]

Blue Coral

Heliopora coerulea is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A4cde of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and/or future based in part on actual or potential levels of exploitation.[237] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or

---

[234] Jenkins, A., Kullander, F.F. & Tan, H.H. 2009. *Pangasius sanitwongsei*. *The IUCN Red List of Threatened Species* 2009: e.T15945A5324983. https://dx.doi.org/10.2305/IUCN.UK.2009-2.RLTS.T15945A5324983.en. Accessed on 02 May 2024.
Hoeksema, B., Rogers, A. & Quibilan, M. 2008. *Heliofungia actiniformis*. *The IUCN Red List of Threatened Species* 2008: e.T133269A3663591. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133269A3663591.en. Accessed on 20 May 2024.

[236] Id.
Obura, D., Fenner, D., Hoeksema, B., Devantier, L. & Sheppard, C. 2008. *Heliopora coerulea*. *The IUCN Red List of Threatened Species* 2008: e.T133193A3624060. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T133193A3624060.en. Accessed on 20 May 2024.

– a decreasing recruitment.

Also, *Heliopora coerulea* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for the aquarium trade.[238]

Seahorses

Four species of *Hippocampus* Spp. that are imported into the U.S. are classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2 c, d, and e of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 30% in the past based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; actual or potential levels of exploitation, or effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites, noted in table below.[239] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Hippocampus* Spp. are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. They are known to be used for the global aquarium trade.[240] Many other *Hippocampus* species are known or thought to be in international trade, and a genus level or other higher taxonomic listing may be warranted.

Species	IUCN Criteria	IUCN Status	CITES Status
HIPPOCAMPUS INGENS	A2cd	VU	II
HIPPOCAMPUS KELLOGGI	A4ce	VU	II
HIPPOCAMPUS KUDA	A4ce	VU	II
HIPPOCAMPUS TRIMACULATUS	A4ce	VU	II

Hippopotamus

Hippopotamus amphibius is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A4acd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future where the causes of reduction may not have creased or may not be understood or may not be reversible based in part on direct observation; a decline in area of

[238] Id.
[239] See generally IUCN. 2023. The IUCN Red List of Threatened Species. Version 2023-1. https://www.iucnredlist.org.
[240] Id.

occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; or actual or potential levels of exploitation.[241] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Hippopotamus amphibius* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for making handicrafts and jewelry.[242]

White Teatfish Sea Cucumber
Holothuria fuscogilva is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on an index of abundance appropriate to the taxon or actual or potential levels of exploitation.[243] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Holothuria fuscogilva* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be fished commercially throughout its range.[244]

Lewison, R. & Pluháček, J. 2017. Hippopotamus amphibius. The IUCN Red List of Threatened Species 2017: e.T10103A18567364. https://dx.doi.org/10.2305/IUCN.UK.2017-2.RLTS.T10103A18567364.en. Accessed on 18 May 2024.
[242] Id.
Conand, C., Purcell, S. & Gamboa, R. 2013. Holothuria fuscogilva. The IUCN Red List of Threatened Species 2013: e.T200715A2681354. https://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T200715A2681354.en. Accessed on 18 May 2024.
[244] Id.

Kaluga Sturgeon

Huso dauricus is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 80% based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Huso dauricus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for human consumption.[245]

Beluga Sturgeon

Huso Huso is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2bcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 80% based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Huso huso* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for meat and caviar.[246]

[245] Qiwei, W. & Mugue, N. 2022. *Huso dauricus*. *The IUCN Red List of Threatened Species* 2022: e.T10268A146104292. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T10268A146104292.en. Accessed on 02 May 2024.

[246] Gessner, J., Chebanov, M. & Freyhof, J. 2022. *Huso huso*. *The IUCN Red List of Threatened Species* 2022: e.T10269A135087846. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T10269A135087846.en. Accessed on 02 May 2024.

Brown Sea Cucumber

Isostichopus fuscus is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% based in part on actual or potential levels of exploitation.[247] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Isostichopus fuscus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be fished commercially.[248]

Longfin Mako Shark

Isurus paucus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2d of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Isurus paucus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be fished extensively for meat and fins.[249]

---

[247] Mercier, A., Hamel, J.-F., Toral-Granda, T.-G., Alvarado, J.J., Paola Ortiz, E. & Benavides, M. 2013. *Isostichopus fuscus*. *The IUCN Red List of Threatened Species* 2013: e.T180373A1621878. https://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T180373A1621878.en. Accessed on 20 May 2024.

[248] Id.

[249] Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Jabado, R.W., Liu, K.M., Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2019. *Isurus paucus*. *The IUCN Red List of Threatened Species* 2019: e.T60225A3095898. https://dx.doi.org/10.2305/IUCN.UK.2019-1.RLTS.T60225A3095898.en. Accessed on 03 May 2024.

Home's Hinge-back Tortoise

Kinixys homeana is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bcd+4bcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future where the causes of reduction may not have creased or may not be understood or may not be reversible based in part on an index of abundance appropriate to the taxon; a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; or actual or potential levels of exploitation.[250] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Kinixys homeana* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be hunted and traded for food, traded for medicinal purposes, and to be part of the international pet trade.[251]

Blue Marlin

Makaira nigricans is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% in the past based in part on an index of abundance appropriate to the taxon or actual or potential levels of exploitation.[252] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Luiselli, L., Agyekumhene, A., Akani, G.C., Allman, P., Diagne, T., Eniang, E.A., Mifsud, D.A., Petrozzi, F. & Segniagbeto, G.H. 2021. Kinixys homeana. The IUCN Red List of Threatened Species 2021: e.T11003A18341580. https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T11003A18341580.en. Accessed on 18 May 2024.

[251] Id.

Collette, B.B., Di Natale, A., Fox, W., Graves, J., Juan Jorda, M., Pohlot, B. & Schratwieser, J. 2022. Makaira nigricans. The IUCN Red List of Threatened Species 2022: e.T170314A46936155. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T170314A46936155.en. Accessed on 18 May 2024.

Also, *Makaira nigricans* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be caught as a sportfish and for human consumption.[253]

Asian Giant Tortoise

Manouria emys is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2cd+4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to observed, estimated, inferred, projected or suspected population reduction of 80% in the past and future based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Manouria emys* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for human consumption and for the pet trade.[254]

Freshwater pearl mussel

Margaritifera margaritifera is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2c of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality.[255] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;

[253] Id.

[254] Choudhury, B.C., Cota, M., McCormack, T., Platt, K., Das, I., Ahmed, M.F., Timmins, R.J., Rahman, S. & Singh, S. 2019. *Manouria emys* (errata version published in 2019). *The IUCN Red List of Threatened Species* 2019: e.T12774A152052098. https://dx.doi.org/10.2305/IUCN.UK.2019-1.RLTS.T12774A152052098.en. Accessed on 02 May 2024.

[255] Moorkens, E., Cordeiro, J., Seddon, M.B., von Proschwitz, T. & Woolnough, D. 2017. *Margaritifera margaritifera* (errata version published in 2018). *The IUCN Red List of Threatened Species* 2017: e.T12799A128686456. https://dx.doi.org/10.2305/IUCN.UK.2017-3.RLTS.T12799A508865.en. Accessed on 09 May 2024.

– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Margaritifera margaritifera* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for handicrafts and jewellery.[256]

Boeseman's Rainbowfish

Melanotaenia boesemani is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria B1ab(iii,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occurrence less than 5,000 km^2 that is severely fragmented or a has five or fewer locations, and an observed, estimated, inferred, or projected decline in the number of locations or subpopulations and in the number of mature individuals.[257] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph B(i and iv):

B. The wild population has a restricted area of distribution and is characterized by at least one of the following:
i) fragmentation or occurrence at very few locations;
iv) an observed, inferred or projected decrease in any one of the following:
– the area of distribution;
– the area of habitat;
– the number of subpopulations;
– the number of individuals;
– the quality of habitat; or
– the recruitment.

Also, *Melanotaenia boesemani* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be collected for the aquarium trade.[258]

Hard Corals

Four species of the genus *Montipora* that are imported into the U.S. are classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A4 c and e of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; or effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.[259] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:

[256] Id.
[257] Allen, G.R. & Kadarusman. 2020. *Melanotaenia boesemani*. *The IUCN Red List of Threatened Species* 2020: e.T13058A147682045. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T13058A147682045.en. Accessed on 09 May 2024.
[258] Id.
[259] See generally IUCN. 2023. The IUCN Red List of Threatened Species. Version 2023-1. https://www.iucnredlist.org.

ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Montipora* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. They are known to be used for the global aquarium trade.[260] Many other *Montipora* species are known or thought to be in international trade, and a genus level or other higher taxonomic listing may be warranted.

Species	IUCN Criteria	IUCN Status	CITES Status
MONTIPORA CAPRICORNIS	A4ce	VU	II
MONTIPORA CEBUENSIS	A4ce	VU	II
MONTIPORA SAMARENSIS	A4ce	VU	II

Dwarf Musk Deer

Moschus berezovskii is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Moschus berezovskii* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for cosmetics and pharmaceuticals.[261]

Musk Deer

Moschus moschiferus is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2d, 3d, and 4d of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction

[260] Id.
[261] Wang, Y. & Harris, R. 2015. *Moschus berezovskii* (errata version published in 2016). *The IUCN Red List of Threatened Species* 2015: e.T13894A103431781. https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T13894A61976926.en. Accessed on 03 May 2024.

of 30% in the past and future where the causes of reduction may not have creased or may not be understood or may not be reversible based in part on actual or potential levels of exploitation.[262] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Moschus moschiferus* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be illegally and unsustainably hunted for the musk that males produce which is used in perfumes and is highly valued for traditional medicines.[263]

Common Smoothhound Shark

Mustelus mustelus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part on an index of abundance appropriate to the taxon or actual or potential levels of exploitation.[264] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Nyambayar, B., Mix, H. & Tsytsulina, K. 2015. Moschus moschiferus. The IUCN Red List of Threatened Species 2015: e.T13897A61977573. https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T13897A61977573.en. Accessed on 17 May 2024.

[263] Id.

Jabado, R.W., Chartrain, E., Cliff, G., Da Silva, C., De Bruyne, G., Derrick, D., Dia, M., Diop, M., Doherty, P., El Vally, Y., Leurs, G.H.L., Meissa, B., Metcalfe, K., Pacoureau, N., Pires, J.D., Seidu, I., Serena, F., Soares, A.-L., Tamo, A., VanderWright, W.J., Williams, A.B. & Winker, H. 2021. Mustelus mustelus. The IUCN Red List of Threatened Species 2021: e.T39358A124405881. https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T39358A124405881.en. Accessed on 18 May 2024.

Also, *Mustelus mustelus* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be caught for human consumption and its fins are not highly valued but in the international fin trade.[265]

Clown Tree Frog (Harlequin Poison Frog)

Oophaga histrionica is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria B1ab(iii,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a decline in the area of occurrence, severe fragmentation, and continuing decline observed, estimated, inferred or projected in area, extent and/or quality of habitat and number of mature individuals. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraphs A(i) and B(i and iv):

A. The wild population is small, and is characterized by at least one of the following:
    i) an observed, inferred or projected decline in the number of individuals or the area and quality of habitat;
B. The wild population has a restricted area of distribution and is characterized by at least one of the following:
    i) fragmentation or occurrence at very few locations;
    iv) an observed, inferred or projected decrease in any one of the following:
        – the area of distribution;
        – the area of habitat;
        – the number of subpopulations;
        – the number of individuals;
        – the quality of habitat; or
        – the recruitment.

Also, *Oophaga histrionica* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for use as pets or display animals.[266]

Lehmann's Poison Frog

Oophaga lehmanni is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A4d of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, projected, inferred, or suspected population reduction of 80% in the past and future based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
    ii) inferred or projected on the basis of any one of the following:
        – a decrease in area of habitat;

[265] Id.

[266] IUCN SSC Amphibian Specialist Group. 2019. *Oophaga histrionica*. *The IUCN Red List of Threatened Species* 2019: e.T144231367A144443857. https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T144231367A144443857.en. Accessed on 02 May 2024.

– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Oophaga lehmanni* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be found in the international pet trade.[267]

King Cobra

Ophiophagus hannah is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2acd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on direct observation; a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; or actual or potential levels of exploitation.[268] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Ophiophagus hannah* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for their skin, food, and medicinal purposes and to be found in the pet trade.[269]

Elephant Skin Coral

Pachyseris rugosa is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and/or future based in part on actual or potential levels of exploitation.[270] The

[267] IUCN SSC Amphibian Specialist Group. 2019. *Oophaga lehmanni*. *The IUCN Red List of Threatened Species* 2019: e.T55190A85891808. https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T55190A85891808.en. Accessed on 02 May 2024.
Stuart, B., Wogan, G., Grismer, L., Auliya, M., Inger, R.F., Lilley, R., Chan-Ard, T., Thy, N., Nguyen, T.Q., Srinivasulu, C. & Jelić, D. 2012. Ophiophagus hannah. The IUCN Red List of Threatened Species 2012: e.T177540A1491874. https://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T177540A1491874.en. Accessed on 17 May 2024.
[269] Id.
Hoeksema, B.W., Rogers, A. & Quibilan, M.C. 2014. *Pachyseris rugosa*. *The IUCN Red List of Threatened Species* 2014: e.T133453A54264116. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T133453A54264116.en. Accessed on 20 May 2024.

species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Pachyseris rugosa* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for the aquarium trade.[271]

Striped Catfish
Pangasianodon hypophthalmus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bd+4bcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of 50% in the past and future based in part on actual or potential levels of exploitation.[272] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Pangasianodon hypophthalmus* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for farming and human consumption at various live stages.[273]

Phraya giant catfish (Giant Pangasius)
Pangasius sanitwongsei is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A2acd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 80% in the past based in part on actual or potential levels of exploitation. The

[271] Id.
[272] Vidthayanon, C. & Hogan, Z. 2011. *Pangasianodon hypophthalmus*. *The IUCN Red List of Threatened Species* 2011: e.T180689A7649971. https://dx.doi.org/10.2305/IUCN.UK.2011-1.RLTS.T180689A7649971.en. Accessed on 09 May 2024.
[273] Id.

species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Pangasius sanitwongsei* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvest for food and for the aquarium trade and is assumed to be 100% wild-caught.[274]

Lettuce Coral
Pectinia lactuca is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and/or future based in part on actual or potential levels of exploitation.[275] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Pectinia lactuca* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for the aquarium trade.[276]

Pearl Bubble Coral
Physogyra lichtensteini is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction

[274] Jenkins, A., Kullander, F.F. & Tan, H.H. 2009. *Pangasius sanitwongsei*. *The IUCN Red List of Threatened Species* 2009: e.T15945A5324983. https://dx.doi.org/10.2305/IUCN.UK.2009-2.RLTS.T15945A5324983.en. Accessed on 02 May 2024.
Sheppard, A., Fenner, D., Edwards, A., Abrar, M. & Ochavillo, D. 2008. *Pectinia lactuca*. *The IUCN Red List of Threatened Species* 2008: e.T132928A3497113.
https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T132928A3497113.en. Accessed on 20 May 2024.
[276] Id.

of 30% in the past and/or future based in part on actual or potential levels of exploitation.[277] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Physogyra lichtensteini* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for the aquarium trade.[278]

Raya Amazonica (Tiger River Stringray)
Potamotrygon tigrina is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria B1ab(iii,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occurrence less than 5,000 km^2 that is severely fragmented or a has five or fewer locations, and an observed, estimated, inferred, or projected decline in the number of locations or subpopulations and in the number of mature individuals.[279] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph B(i and iv):

B. The wild population has a restricted area of distribution and is characterized by at least one of the following:
i) fragmentation or occurrence at very few locations;
iv) an observed, inferred or projected decrease in any one of the following:
– the area of distribution;
– the area of habitat;
– the number of subpopulations;
– the number of individuals;
– the quality of habitat; or
– the recruitment.

Also, *Potamotrygon tigrina* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used globally as ornamental fish.[280]

Turak, E., Sheppard, C. & Wood, E. 2014. *Physogyra lichtensteini*. *The IUCN Red List of Threatened Species* 2014: e.T133456A54264713. https://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T133456A54264713.en. Accessed on 20 May 2024.

[278] Id.

[279] García Vásquez, A., Sánchez Riveiro, H., Valverde, D., García Dávila , C., Ortega Torres, H., Reyes Ramírez, C., Reategui Ocampo, D., Perea Sicchar, C., Panduro, M., Moya Vásquez , L., Moncada Gallardo, T., Chavez Mendoza, G. & Correa, E. 2016. *Potamotrygon tigrina*. *The IUCN Red List of Threatened Species* 2016: e.T58431796A58433303. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T58431796A58433303.en. Accessed on 09 May 2024.

[280] Id.

Banggai Cardinalfish

Pterapogon kauderni is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria B2ab(ii,iii,iv,v) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an area of occupancy less than 500 km^2 that is severely fragmented or a has 10 or fewer locations, and an observed, estimated, inferred, or projected decline in area of occupancy; area, extent and/or quality of habitat; number of locations or subpopulations; or number of mature individuals.[281] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph B(i and iv):

B. The wild population has a restricted area of distribution and is characterized by at least one of the following:

i) fragmentation or occurrence at very few locations;

iv) an observed, inferred or projected decrease in any one of the following:

– the area of distribution;
– the area of habitat;
– the number of subpopulations;
– the number of individuals;
– the quality of habitat; or
– the recruitment.

Also, *Pterapogon kauderni* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for the aquarium trade.[282]

Burmese Python

Python bivittatus is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2acd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on direct observation; a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; or actual or potential levels of exploitation.[283] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:

ii) inferred or projected on the basis of any one of the following:

– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or

[281] Allen, G.R & Donaldson, T.J. 2007. *Pterapogon kauderni*. *The IUCN Red List of Threatened Species* 2007: e.T63572A12692964. https://dx.doi.org/10.2305/IUCN.UK.2007.RLTS.T63572A12692964.en. Accessed on 20 May 2024.

[282] Id.

Stuart, B., Nguyen, T.Q., Thy, N., Grismer, L., Chan-Ard, T., Iskandar, D., Golynsky, E. & Lau, M.W.N. 2012. Python bivittatus (errata version published in 2019). The IUCN Red List of Threatened Species 2012: e.T193451A151341916. https://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T193451A151341916.en. Accessed on 17 May 2024.

– a decreasing recruitment.

Also, *Python bivittatus* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be harvested for food, skin for use in the leather industry, medicinal purposes, and the pet trade.[284]

Reindeer

Rangifer tarandus is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2a of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 30% in the past based in part on direct observation.[285] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Rangifer tarandus* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be traded internationally for commercial uses.[286]

Mountain Reedbuck

Redunca fulvorufula is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2ad of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part on actual or potential levels of exploitation.[287] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or

[284] Id.
Gunn, A. 2016. Rangifer tarandus. The IUCN Red List of Threatened Species 2016: e.T29742A22167140. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T29742A22167140.en. Accessed on 18 May 2024.
[286] Id.
[287] IUCN SSC Antelope Specialist Group. 2017. *Redunca fulvorufula*. *The IUCN Red List of Threatened Species* 2017: e.T19391A50193881. https://dx.doi.org/10.2305/IUCN.UK.2017-2.RLTS.T19391A50193881.en. Accessed on 09 May 2024.

– a decreasing recruitment.

Also, *Redunca fulvorufula* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for food, handicrafts and hunting trophies.[288]

Javan Deer

Rusa timorensis is classified as "Vulernable" on the *IUCN Red List of Threatened species* under criteria C1 of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated or projected continuing decline of at least 10% in 10 years or 3 generations.[289] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Rusa timorensis* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be traded internationally for medicinal and other commercial purposes.[290]

Sambar Deer

Rusa unicolor is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2cd+3cd+4cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future where the causes of reduction may not have creased or may not be understood or may not be reversible based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality or effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.[291] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:

---

[288] Id.
Hedges, S., Duckworth, J.W., Timmins, R., Semiadi, G. & Dryden, G. 2015. Rusa timorensis. The IUCN Red List of Threatened Species 2015: e.T41789A22156866. https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T41789A22156866.en. Accessed on 18 May 2024.
[290] Id.
Timmins, R., Kawanishi, K., Giman, B, Lynam, A., Chan, B., Steinmetz, R., Sagar Baral, H. & Samba Kumar, N. 2015. Rusa unicolor (errata version published in 2015). The IUCN Red List of Threatened Species 2015: e.T41790A85628124. https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T41790A22156247.en. Accessed on 18 May 2024.

ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Rusa unicolor* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be hunted for sport and traded internationally for medicinal and other commercial purposes.[292]

Black Marsh Turtle

Siebenrockiella crassicollis is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2cd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality or actual or potential levels of exploitation.[293] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Siebenrockiella crassicollis* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for meat consumption and traditional Chinese medicine.[294]

Smooth Hammerhead Shark

Sphyrna zygaena is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on an index of abundance appropriate to the taxon or actual or potential levels of exploitation.[295] The species qualify for listing on Appendix I of CITES because they

[292] Id.
Horne, B.D., Kusrini, M.D., Hamidy, A., Platt, K., Guntoro, J. & Cota, M. 2021. Siebenrockiella crassicollis. The IUCN Red List of Threatened Species 2021: e.T39616A2930856. https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T39616A2930856.en. Accessed on 17 May 2024.
[294] Id.
Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Herman, K., Jabado, R.W., Liu, K.M., Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H. 2019. Sphyrna zygaena. The IUCN Red List of Threatened Species 2019: e.T39388A2921825. https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T39388A2921825.en. Accessed on 17 May 2024.

meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Sphyrna zygaena* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be one of the main shark species in the fin trade and one of the preferred species for shark fin soup.[296]

Pacific Mahogany
Swietenia humilis is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria A2bcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part on actual or potential levels of exploitation. The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Swietenia humilis* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for timber products.[297]

Lowland Tapir
Tapirus terrestris is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2cde+3cde of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; actual or potential levels of exploitation; or effects of

[296] Id.
[297] Barstow, M. 2019. *Swietenia humilis*. *The IUCN Red List of Threatened Species* 2019: e.T32954A68104636. https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T32954A68104636.en. Accessed on 03 May 2024.

introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.[298] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Tapirus terrestris* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be hunted for food and their skin is used to make leather products that are sold internationally.[299]

White-lipped Paccary

Tayassu pecari is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bcde+3bcde of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future based in part on an index of abundance appropriate to the taxon; a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; actual or potential levels of exploitation; or effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.[300] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Tayassu pecari* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for both food and hides, which are traded internationally.[301]

Varela, D., Flesher, K., Cartes, J.L., de Bustos, S., Chalukian, S., Ayala, G. & Richard-Hansen, C. 2019. Tapirus terrestris. The IUCN Red List of Threatened Species 2019: e.T21474A45174127. https://dx.doi.org/10.2305/IUCN.UK.2019-1.RLTS.T21474A45174127.en. Accessed on 17 May 2024.

[299] Id.

Keuroghlian, A., Desbiez, A., Reyna-Hurtado, R., Altrichter, M., Beck, H., Taber, A. & Fragoso, J.M.V. 2013. Tayassu pecari. The IUCN Red List of Threatened Species 2013: e.T41778A44051115. https://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T41778A44051115.en. Accessed on 17 May 2024.

[301] Id.

Indian Tarantula

Thrigmopoeus insignis is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria B1ab(ii,iii)+2ab(ii,iii) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a decline in the extent of occurrence or area of occupancy and severe fragmentation, and continuing decline observed, estimated, inferred or projected in the area of occupancy and area, extent and/or quality of habitat.[302] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Thrigmopoeus insignis* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be impacted by numerous anthropogenic pressures and there is evidence of the species being in the international pet trade.[303]

Mountain Nyala (Buxton's Tragelaphus)

Tragelaphus buxtoni is classified as "Endangered" on the *IUCN Red List of Threatened species* under criteria C(1) of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a small population size of less than 2,500 mature individuals and an observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future) 20% in 5 years or 2 generations (whichever is longer).[304] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph A(i):

A. The wild population is small, and is characterized by at least one of the following:
i) an observed, inferred or projected decline in the number of individuals or the area and quality of habitat;

Also, *Tragelaphus buxtoni* is known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be used for hunting trophies.[305]

Siliwal, M., Molur, S. & Daniel, B.A. 2008. Thrigmopoeus insignis. The IUCN Red List of Threatened Species 2008: e.T63672A12705647. https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T63672A12705647.en. Accessed on 18 May 2024.

[303] Id.

[304] IUCN SSC Antelope Specialist Group. 2016. *Tragelaphus buxtoni* (errata version published in 2017). *The IUCN Red List of Threatened Species* 2016: e.T22046A115164345. https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22046A50195483.en. Accessed on 09 May 2024.

[305] Id.

Agama Lizard

Trapelus savignii is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2abcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past based in part on direct observation; an index of abundance appropriate to the taxon; a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; or actual or potential levels of exploitation.[306] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Trapelus savignii* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is facing population decline thought to be caused by overexploitation, shrinkage in distribution, and habitat destruction and degradation.[307]

Disc Corals

Four species of the genus *Turbinaria* that are imported into the U.S. are classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A4 c, d and e of the *Guidelines for Using the IUCN Red List Categories and Criteria* due an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and/or future based in part on a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality; actual or potential levels of exploitation, or effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.[308] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Werner, Y. & El Din, S.B. 2006. Trapelus savignii. The IUCN Red List of Threatened Species 2006: e.T61587A12501400. https://dx.doi.org/10.2305/IUCN.UK.2006.RLTS.T61587A12501400.en. Accessed on 18 May 2024.

[307] Id.

[308] See generally IUCN. 2023. The IUCN Red List of Threatened Species. Version 2023-1. https://www.iucnredlist.org.

Also, *Turbinaria species* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. They are known to be used for the global aquarium trade.[309] Many other *Turbinaria* species are known or thought to be in international trade, and a genus level or other higher taxonomic listing may be warranted.

Species	IUCN Criteria	IUCN Status	CITES Status
TURBINARIA MESENTERINA	A4de	VU	II
(DUNCANOPSAMMIA)TURBINARIA PELTATA	A4cd	VU	II
TURBINARIA RENIFORMIS	A4c	VU	II

Porcupine Ray

Urogymnus asperrimus is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2bd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of 50% in the past based in part on an index of abundance appropriate to the taxon or actual or potential levels of exploitation.[310] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Urogymnus asperrimus* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be caught for human consumption and its skin is valuable and traded internationally.[311]

Egyptian Spiny-tailed Lizard

Uromastyx aegyptia is classified as "Vulnerable" on the *IUCN Red List of Threatened species* under criteria A2abcd+4abcd of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected or suspected population reduction of 30% in the past and future where the causes of reduction may not have creased or may not be understood or may not be reversible based in part on direct observation; an index of abundance appropriate to the taxon; a decline in area of occupancy (AOO), extent of occurrence (EOO)

[309] Id.
Chin, A. & Compagno, L.J.V. 2016. Urogymnus asperrimus. The IUCN Red List of Threatened Species 2016: e.T39413A68648645. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T39413A68648645.en. Accessed on 18 May 2024.
[311] Id.

and/or habitat quality; or actual or potential levels of exploitation.[312] The species qualify for listing on Appendix I of CITES because they meet the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraph C(ii):

C. A marked decline in the population size in the wild, which has been:
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

Also, *Uromastyx aegyptia* are known to be in trade and is imported into the U.S., which is detrimental to the survival of the species. It is known to be eaten, used for medicinal purposes, and are part of the international pet trade.[313]

IV. FWS Should Protect Threatened Tree Species from Export as Forest-Based Biomass

Finally, the United States should protect its threatened trees from unmonitored international commercial trade as biomass that is contributing to their decline. Our review of exported wood pellets to supply wood-burning power plants in foreign countries revealed that many of the trees harvested for forest-based biomass are specimens of species assessed as threatened with extinction pursuant to the *IUCN Red List* (assessed as vulnerable, endangered, or critically endangered). We believe these species are affected by the wood pellet trade, which has been degrading biodiversity hotspots in regions like the U.S. Southeast and degrading individual species' resilience to other stressors.

Here, we examined the status of tree species identified as facing a high risk of extinction on the *IUCN Red List* that the United States exports as wood pellets and the criteria for amendment of Appendices I and II in CITES Resolution Conf. 9.24 (Rev. CoP17). Based on that examination, we identified the following U.S. species that meet the CITES criteria for listing on Appendix I and urge the Service to propose these species for listing on Appendix I at CoP20:

Green Ash
Fraxinus pennsylvanica is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A3e and 4ae of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a projected, inferred, or suspected population reduction in the past and future of ≥ 80%, based in part on the effects of introduced taxa (the Emerald Ash

Wilms, T., Eid, E.K.A., Al Johany, A.M.H., Amr, Z.S.S., Els, J., Baha El Din, S., Disi, A.M., Sharifi, M., Papenfuss, T., Shafiei Bafti, S. & Werner, Y.L. 2012. Uromastyx aegyptia (errata version published in 2017). The IUCN Red List of Threatened Species 2012: e.T164729A115304711. https://dx.doi.org/10.2305/IUCN.UK.2012.RLTS.T164729A1071308.en. Accessed on 17 May 2024.
[313] Id.

Borer).[314] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17, Annex I, specifically paragraphs C(i) and (ii):

C. A marked decline in the population size in the wild, which has been:
i) observed as ongoing or as having occurred in the past (but with a potential to resume); or
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

F. pennsylvanica is also known to be in trade. It is traded internationally for specialty items like tool handles and baseball bats, as well as an ornamental tree to shade parkways and streets in urban and suburban areas.[315] It is also traded internationally in the form of wood pellets, which are exported from the U.S. to Europe and Asia to be burned for biomass energy.[316]

White Ash
Fraxinus americana is classified as "Critically Endangered" on the *IUCN Red List of Threatened species* under criteria A3e+4ae of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a projected, inferred or suspected population reduction in the past and future of ≥ 80%, based in part on the effects of introduced taxa (the Emerald Ash Borer).[317] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically paragraphs C(i) and (ii):

C. A marked decline in the population size in the wild, which has been:
i) observed as ongoing or as having occurred in the past (but with a potential to resume); or
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

[314] Westwood, M., Oldfield, S., Jerome, D. & Romero-Severson, J. 2017. *Fraxinus pennsylvanica*. *The IUCN Red List of Threatened Species* 2017: e.T61918934A61919002. https://dx.doi.org/10.2305/IUCN.UK.2017-2.RLTS.T61918934A61919002.en. Accessed on 09 May 2024.
[315] Westwood, M., Oldfield, S., Jerome, D. & Romero-Severson, J. 2017. *Fraxinus pennsylvanica*. *The IUCN Red List of Threatened Species* 2017: e.T61918934A61919002. https://dx.doi.org/10.2305/IUCN.UK.2017-2.RLTS.T61918934A61919002.en.
[316] Sustainable Biomass Program, Certificate Holders Search Database, https://sbp-cert.org/certifications/certificate-holders/.
[317] Jerome, D., Westwood, M., Oldfield, S. & Romero-Severson, J. 2017. *Fraxinus americana*. *The IUCN Red List of Threatened Species* 2017: e.T61918430A61918432. https://dx.doi.org/10.2305/IUCN.UK.2017-2.RLTS.T61918430A61918432.en. Accessed on 09 May 2024.

F. americana is also known to be in trade. It is used for a variety of applications, including bows, baseball bats, tool handles, guitars, veneers, and joinery, some of which are found in international trade.[318] It is also traded internationally in the form of wood pellets, which are exported from the U.S. to Europe and Asia to be burned for biomass energy.[319]

American Elm

Ulmus americana is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criteria A3e of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to a projected, inferred, or suspected population reduction of ≥ 50% in the future, based in part the effects of introduced taxa--the fungi *Ophiostoma ulmi* and *O. novo-ulmi*, which cause Dutch elm disease.[320] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically paragraphs C(i) and (ii):

C. A marked decline in the population size in the wild, which has been:
i) observed as ongoing or as having occurred in the past (but with a potential to resume); or
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

U. americana is also known to be in international trade for wood used to manufacture packaging materials, furniture, agricultural implements, and caskets; veneer used to make furniture and decorative panels; and ornamental trees.[321] It is also traded internationally in the form of wood pellets, which are exported from the U.S. to Europe and Asia to be burned for biomass energy.[322]

Longleaf pine

Pinus palustris is classified as "Endangered" on the *IUCN Red List of Threatened Species* under criteria A2cde of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of ≥ 50 in the past and future,

---

[318] Jerome, D., Westwood, M., Oldfield, S. & Romero-Severson, J. 2017. *Fraxinus americana*. *The IUCN Red List of Threatened Species* 2017: e.T61918430A61918432. https://dx.doi.org/10.2305/IUCN.UK.2017-2.RLTS.T61918430A61918432.en. Accessed on 08 May 2024.
[319] Sustainable Biomass Program, Certificate Holders Search Database, https://sbp-cert.org/certifications/certificate-holders/.
[320] Stritch, L., Rivers, M.C. & Barstow, M. 2020. *Ulmus americana* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2020: e.T61966619A180057317. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T61966619A180057317.en. Accessed on 09 May 2024.
[321] Stritch, L., Rivers, M.C. & Barstow, M. 2020. *Ulmus americana* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2020: e.T61966619A180057317. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T61966619A180057317.en. Accessed on 08 May 2024.
[322] Sustainable Biomass Program, Certificate Holders Search Database, https://sbp-cert.org/certifications/certificate-holders/.

based in part on actual or potential levels of exploitation.[323] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically paragraphs C(i) and (ii):

C. A marked decline in the population size in the wild, which has been:
i) observed as ongoing or as having occurred in the past (but with a potential to resume); or
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

P. palustris is also known to be in international trade. Its wood is used for sawlogs, stage flooring, plywood, pulpwood, poles, fence posts, and pilings, and its chips are used to make chemicals including turpentine.[324] It is also traded internationally in the form of wood pellets, which are exported from the U.S. to Europe and Asia to be burned for biomass energy.[325]

Redbay
*Persea borbonia i*s classified as "Endangered" on the *IUCN Red List of Threatened Specie*s under criteria A4ae of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, projected, or suspected population reduction of in ≥ 50% in the past and future, based in part on direct observation and introduced pathogens (*Raffaelea lauricola,* which is transmitted by the Redbay Ambrosia Beetle (*Xyleborus glabratus*)).[326] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically paragraphs C(i) and (ii):

C. A marked decline in the population size in the wild, which has been:
(i) observed as ongoing or as having occurred in the past (but with a potential to resume); or
ii) inferred or projected on the basis of any one of the following:
– a decrease in area of habitat;
– a decrease in quality of habitat;
– levels or patterns of exploitation;
– a high vulnerability to either intrinsic or extrinsic factors; or
– a decreasing recruitment.

[323] Farjon, A. 2013. *Pinus palustris*. *The IUCN Red List of Threatened Species* 2013: e.T39068A2886222. https://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T39068A2886222.en. Accessed on 09 May 2024.
[324] Farjon, A. 2013. *Pinus palustris*. *The IUCN Red List of Threatened Species* 2013: e.T39068A2886222. https://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T39068A2886222.en. Accessed on 08 May 2024.
[325] Sustainable Biomass Program, Certificate Holders Search Database, https://sbp-cert.org/certifications/certificate-holders/.
[326] Carrero, C. 2021. *Persea borbonia*. *The IUCN Red List of Threatened Species* 2021: e.T135956601A138510479. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T135956601A138510479.en. Accessed on 08 May 2024.

P. borbonia is also known to be in international trade for construction and structural materials (e.g., fine cabinetwork, lumber) and human consumption as its leaves are used to flavor soups and meats.[327] Finally, it is traded internationally in the form of wood pellets, which are exported from the U.S. to Europe and Asia to be burned for biomass energy.[328]

Swambay

Persea palustris is classified as "Vulnerable" on the *IUCN Red List of Threatened Species* under criteria A2e of the *Guidelines for Using the IUCN Red List Categories and Criteria* due to an observed, estimated, inferred, or suspected population reduction of ≥ 30% in the past and future, based in part on introduced pathogens (*Raffaelea lauricola,* which is transmitted by the Redbay Ambrosia Beetle (X*yleborus glabratus*)).[329] The species qualifies for listing on Appendix I of CITES because it meets the biological criteria found in CITES Res. Conf. 9.24 (Rev. COP17), Annex I, specifically paragraphs C(i) and (ii):

C. A marked decline in the population size in the wild, which has been:
  i) observed as ongoing or as having occurred in the past (but with a potential to resume); or
  ii) inferred or projected on the basis of any one of the following:
    – a decrease in area of habitat;
    – a decrease in quality of habitat;
    – levels or patterns of exploitation;
    – a high vulnerability to either intrinsic or extrinsic factors; or
    – a decreasing recruitment.

P. palustris is traded internationally in the form of wood pellets, which are exported from the U.S. to Europe and Asia to be burned for biomass energy.[330]

V. Opportunities to Improve CITES

Over the past 50 years, CITES has done an adequate job of helping stabilize many threatened species suffering from overexploitation. However, we do not believe that CITES business-as-usual can robustly address the pressures that are emerging as a consequence of the climate and biodiversity crises. As such, we urge the Service to examine CITES procedures and mechanisms with an eye to making CITES relevant in the fight to secure nature for future generations.

[327] Carrero, C. 2021. *Persea borbonia*. *The IUCN Red List of Threatened Species* 2021: e.T135956601A138510479. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T135956601A138510479.en. Accessed on 08 May 2024.
[328] Sustainable Biomass Program, Certificate Holders Search Database, https://sbp-cert.org/certifications/certificate-holders/.
[329] Carrero, C. 2021. *Persea palustris*. *The IUCN Red List of Threatened Species* 2021: e.T138165041A138165106. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T138165041A138165106.en. Accessed on 09 May 2024.
[330] Sustainable Biomass Program, Certificate Holders Search Database, https://sbp-cert.org/certifications/certificate-holders/.

A. The Need for Emergency Processes and Mechanisms at CITES

Scientific literature documents a rush on trade in species: perceived as rare,[331] that are newly described or identified,[332] or that are proposed for protection.[333] Often the species at issue are known from one or a very few locations, have very small populations (e.g. fewer than 1,000 individuals), often have striking physical characteristics or other unique features, and are in an IUCN threatened category or otherwise at risk of extinction. Many of these species are reptiles and amphibians plucked from the wild for the international pet trade. Often international trade is a driving threat to these species but for some it can serve as the final nail in the coffin when combined with habitat loss or disease (in the case of many amphibians). Even when action is taken, one effect of trade bans can "be (unforeseen) negative impacts on other species that are not afforded the same protection."[334] The current three-year cycle between CITES CoPs leaves many species languishing as does the lengthy wait time between when species are assessed by IUCN and protected by CITES.[335] Given the significant role that exploitation is playing in driving species extinctions,[336] tools need to be adopted at CITES to protect species on an emergency basis in between CoPs and in some cases *before* the appendices are formally amended. To ensure that CITES addresses these critical concerns, we suggest a few approaches.

First, the process in Article XV paragraph 2 needs to be operationalized in the Rules of Procedure for the CoP so that the appendices can be amended as needed between CITES meetings. Second, a mechanism is needed to ensure that species-saving listings do not have negative effects via rushes on trade before CoP or in the 90-day window following a positive decision to amend the appendices but before the listing takes effect. Likewise, as the biodiversity crisis worsens CITES needs a mechanism to act quickly to protect species from international trade when the species is imminently at risk of extinction or newly discovered (but with suspected small populations and "in demand" characteristics). Finally, the benefit of the doubt needs to be given to species when the risk of extinction cannot be determined. Overall, bans in trade or regulation of trade via CITES are critically important to protecting myriad species from extinction or local extirpation. Thus, it is imperative that a solution be put forth at CITES to protect species in need on an emergency basis.

---

[331] Courchamp, F., Angulo, E., Rivalan, P., Hall, R. J., Signoret, L., Bull, L., & Meinard, Y. (2006). Rarity value and species extinction: the anthropogenic Allee effect. PLoS biology, 4(12), e415; Hall, R. J., Milner-Gulland, E. J., & Courchamp, F. (2008). Endangering the endangered: the effects of perceived rarity on species exploitation. Conservation Letters, 1(2), 75-81.

[332] Marshall, B. M., Strine, C., & Hughes, A. C. (2020). Thousands of reptile species threatened by under-regulated global trade. Nature communications, 11(1), 4738. Additionally, as FWS indicated to the AC/PC WG on Risk of Extinction, "We have seen newly discovered species with little to no population data that have already been seen in trade, including species that have not yet been formally identified by the scientific community."

[333] Mialon, H. M., Klumpp, T., & Williams, M. A. (2022). International trade and the survival of mammalian and reptilian species. Science Advances, 8(1), eabh3442; Janssen, J., & Krishnasamy, K. (2018). Left hung out to dry: How inadequate international protection can fuel trade in endemic species–The case of the earless monitor. Global Ecology and Conservation, 16, e00464; Rivalan, P., Delmas, V., Angulo, E., Bull, L. S., Hall, R. J., Courchamp, F., ... & Leader-Williams, N. (2007). Can bans stimulate wildlife trade?. Nature, 447(7144), 529-530.

[334] Macdonald, D. W., Harrington, L. A., Moorhouse, T. P., & D'Cruze, N. (2021). Trading animal lives: ten tricky issues on the road to protecting commodified wild animals. BioScience, 71(8), 846-860.

[335] Frank, E. G., & Wilcove, D. S. (2019). Long delays in banning trade in threatened species. Science, 363(6428), 686-688.

[336] IPBES

We urge the United States to put forth a working document suggesting amendments to the CoP Rules of Procedure (RoP) and a draft Resolution (or Resolutions) to address these issues at CITES. Our recommendation is to first clarify the Article XV paragraph 2 process for amending the appendices between CoPs. The intersessional committees have rules for intersessional decision making,[337] but the CoP RoPs do not provide for such a process. Establishing an electronic mechanism for amending the appendices between CoPs following Article XV paragraph 2 should be straightforward. Establishing a further mechanism to immediately protect species *before* the appendices can be amended is also necessary. This could be done by a Resolution that invokes the precautionary principle and/or a temporary derogation of the convention timelines due to the declared emergency of potential imminent extinction. The Resolution would enable proponent Parties to detail when a species proposed for inclusion on the CITES appendices or proposed for uplisting[338] is recommended for immediate and emergency action by CITES Parties. The Resolution could detail the instances where it can be invoked with the outcome being that CITES' Parties are urged to immediately treat the species as already listed. This process would be akin to Appendix III listings but take immediate effect and last until the decision to amend the Appendix takes effect.

B. Ensuring that False Climate Solutions Do Not Harm Species

The Service should consider drafting a decision or resolution, or proposing an agenda item, on biomass energy given its contribution to the international commercial trade in plant species. Specifically, a decision that will facilitate further information-gathering on what tree species are being traded in the form of wood pellets would be incredibly helpful (*e.g.*, one directing CITES Parties to report annually on the species they import in the form of wood pellets). Further, it would be helpful to add this topic to the agenda for this summer's Plants Committee meeting.

The U.S. Southeast is the world's main sourcing ground for trees to convert into wood pellets, which are then transported to regions like the UK and EU that have deemed bioenergy "renewable." As the bioenergy industry explodes, a growing number of plant species sourced for wood pellets are increasingly threatened by this international commercial trade. These include species that are already imperiled by other factors, including the Critically Endangered Green Ash (*Fraxinus pennsylvanica*) and White Ash (*Fraxinus americana*); the Endangered American Elm (*Ulmus americana*), Longleaf pine (*Pinus palustris*), and Redbay (*Persea borbonia*); and the Vulnerable Swamp Bay (*Persea palustris*).[304] Given this data reflects only an initial survey of documents submitted by biomass companies under the Sustainable Biomass Program – one of several biomass certification schemes – this list is likely only the tip of the iceberg in terms of species affected. Further, all biomass certification schemes are self-policing and likely underreporting, in part because it is sometimes difficult to discern what species are being logged in the moment or at the lumber yard before they are turned into wood pellets.

While the bioenergy industry has claimed for many years that it uses only the "wastes and residues" of logging operations, myriad investigations over the past few years have shown that

[337] Rule 20: https://cites.org/sites/default/files/eng/com/sc/E-SC70-RoP-2018.pdf and Rule 19: https://cites.org/sites/default/files/eng/com/ac/E-AC30-RoP-2018-Rev.pdf

[338] As an example, the rush on trade in pangolin species following the CoP17 uplistings of the species in Africa.

this is false. Instead, bioenergy companies clearcut trees specifically for biomass in the U.S. Southeast (in our country's only biodiversity hotspot—the North American Coastal Plain Global Biodiversity Hotspot), as well as in Canada, the Baltics, and other areas.[305] The scale of this sourcing is growing at an alarming pace, with the quantity of wood pellets exported from the U.S. in 2022 nearly doubling quantities exported in 2015.[306] Further, between 2012 and 2021, U.S. wood pellet exports increased 296.3% by volume.[307] Increased wood pellet exports, means more trees being logged and more species being put at risk. In fact, bioenergy presents such a great threat to biodiversity that more than 800 scientists recently wrote a letter to world leaders expressing their concern regarding this "emerging and growing threat to biodiversity" and asking them to replace any reliance on forest bioenergy with true renewables like wind and solar.[308]

The Service could take a very concrete leadership role in the protection of our planet's trees by beginning to raise this issue at CITES and in bilateral and multilateral meetings, and by endeavoring to obtain a more comprehensive picture of the species being sourced from the U.S. (and other countries) for wood pellets.

VI. Conclusion

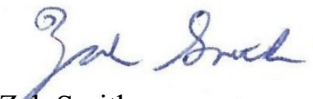
As noted above, given the scale and scope of the biodiversity and climate crises, we believe the Service should be ensuring that all U.S. range-state species, all U.S. imported species, and U.S. exports of trees for wood pellets that meet the CITES criteria for listing on Appendix I are placed on Appendix I. If the Service is unwilling to propose listing a species, we ask it to explain why a rejected species does not meet the criteria for Appendix I.

In addition, the Service should take bold steps to prepare CITES for the next 50 years, by putting forward resolutions, decisions, or agenda items related to providing emergency relief to species and to address the emerging threat to treasures U.S. tree species from the false climate solution of forest-based bioenergy.

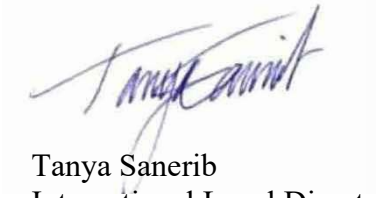
The science is clear that business-as-usual will only maintain the ongoing biodiversity crisis and continue to reduce species' resilience to climate change. Nothing short of transformative change – a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values – will suffice to disrupt the biodiversity crisis. The U.S. should be bold and ambitious at CoP20, ensuring that the treaty fully fulfils its mandate to ensure species threatened with extinction are fully protected against detrimental international trade and ensure wildlife and plants are not lost due to human exploitation.

Thank you for the opportunity to provide these comments and recommendations. We look forward to working with the U.S. Government in preparing for and carrying out the important work of CoP20.

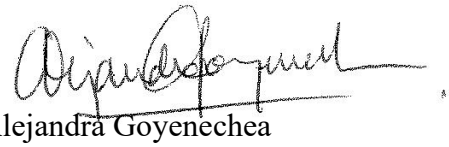
Sincerely,



Zak Smith
Director, Global Biodiversity Conservation
Natural Resources Defense Council



Tanya Sanerib
International Legal Director, Senior Attorney
Center for Biological Diversity



Alejandra Goyenechea
Senior International Counsel
Defenders of Wildlife