UNITED ARAB EMIRATES
MINISTRY OF CLIMATE CHANGE
& ENVIRONMENT

POLICY BRIEF

UAE National Red List of Cartilaginous Fishes

2021

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2020

The UAE National Red List of Cartilaginous Fishes, prepared for the UAE Ministry of Climate Change and Environment (MOCCAE), provides the most up–to–date information on the conservation status and distribution of sharks, rays, and skates in the country. It serves as the ultimate information resource for policy–making and priority–setting with the aim of building fisheries management capacities, regulating trade, refining and expanding the network of protected areas, and meeting the UAE's commitments to international environmental agreements.

Key Messages

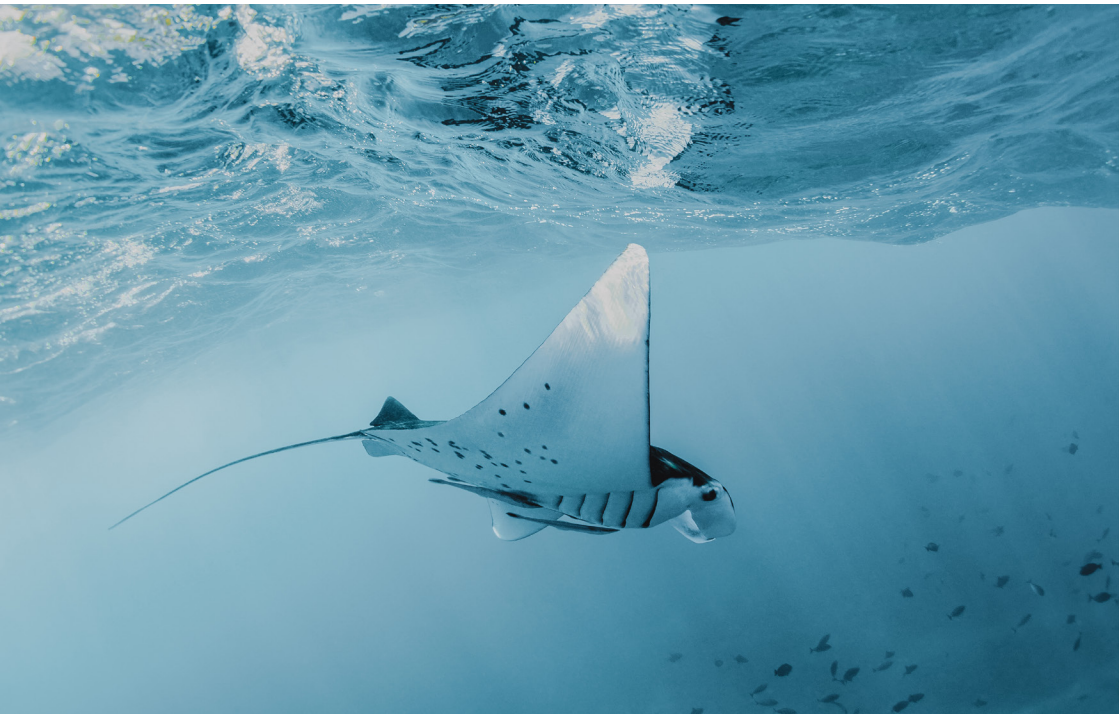
- **48 species (60%)** of the 80 species of sharks, rays, skates, and their relatives in UAE territorial waters for which enough data are available **are threatened** (assessed as Critically Endangered, Endangered, and Vulnerable) **with regional extinction.**
- **Life history characteristics, such as small brood sizes, large body size, and slow growth,** correspond to increased risk of national extinction in cartilaginous fishes.
- **Eight species (10%) of sharks and rays found in UAE waters are Data Deficient** and require further research.
- **The percentage of threatened species would rise to 70 if all Data Deficient species were found to be threatened.**
- The 2019 **Red List Index Score** for cartilaginous fishes is 0.60. This is the benchmark against which future changes in the status of cartilaginous fishes in the UAE can be measured.
- There is a need for increased fisheries management capacity in the region and enforcement of existing fisheries regulations.
- **In the past, the UAE has been reported to be a significant regional and global** hub for the export and re–export of **shark products, including shark fins;** however, recent legislation and policies have reduced the country's role in the international trade in shark products.
- Continued attention to trade regulations (e.g., Ministerial Resolution No. 43 of 2019 regulating shark fishing and trade) in the UAE is likely to benefit regional and global conservation initiatives.

Overview

There is an urgent need to understand the status of biodiversity in the UAE to inform conservation policy– and decision–making. Biodiversity data assist with national–level reporting for bilateral and multilateral environmental agreements (MEAs).

The UAE National Red List of Cartilaginous Fishes seeks to leverage the combined knowledge of local and international experts to assess the risk of extinction for cartilaginous fishes (sharks, rays, skates, and their relatives) in the country, and to produce a baseline to understand the long–term trends in extinction risk (the Red List Index datapoint for cartilaginous fishes) that occur within the exclusive economic zone (EEZ) of the UAE.

To support the UAE National Red List Project, the IUCN (International Union for Conservation of Nature) compiled the available data on cartilaginous fishes recorded in the territorial marine waters of the country.



Background

Eighty species of cartilaginous fishes native to UAE territorial marine waters were selected for assessment against the IUCN Red List Criteria. Cartilaginous fishes provide considerable income, cultural heritage, and recreational value for the UAE, and form an important component of the country's unique marine environment (Jabado et al. 2015, Jabado and Spaet 2017).

The UAE promotes marine conservation through a combination of spatial and seasonal fishing bans, gear restrictions, and the establishment of marine protected areas. However, the extent to which these measures benefit cartilaginous fishes is unknown.

Information on the status and distribution of cartilaginous fishes in the UAE can be used for:

- **Identifying and prioritising** species for assessment and management. There is a lack of species–specific catch and trade information for most cartilaginous fishes.
- **Enriching** public and private sector environmental education, awareness, and citizen science initiatives and programmes.
- **Reporting** on the UAE's progress towards achieving national and international biodiversity targets.

Methodology

IUCN compiled the list of 80 species of cartilaginous fishes for inclusion in the UAE National Red List, and produced draft distribution maps for each species using Geographic Information Systems (GIS), as well as data on their population size and trend, habitat and ecology, and the threats to each species. This information underwent initial review by experts in the UAE, followed by the National Red List Assessment Workshop (Dubai, September 2019) that brought together experts from across the country to assign each species to one of 11 IUCN Regional Red List Categories (Figs. 1 and 2). In contrast to other marine species groups assessed at this workshop (i.e., marine mammals, sea birds, mangroves, and seagrasses), a retrospective assessment for 1996 was not produced because of the absence of data on the historical distribution and status of cartilaginous fishes. Thus, a Red List Index datapoint for 2019 was produced, not a full index.

Following a further stage of internal review by IUCN and peer review by UAE experts, the assessments and distribution maps were published by MOCCAE at www.moccae.gov.ae.

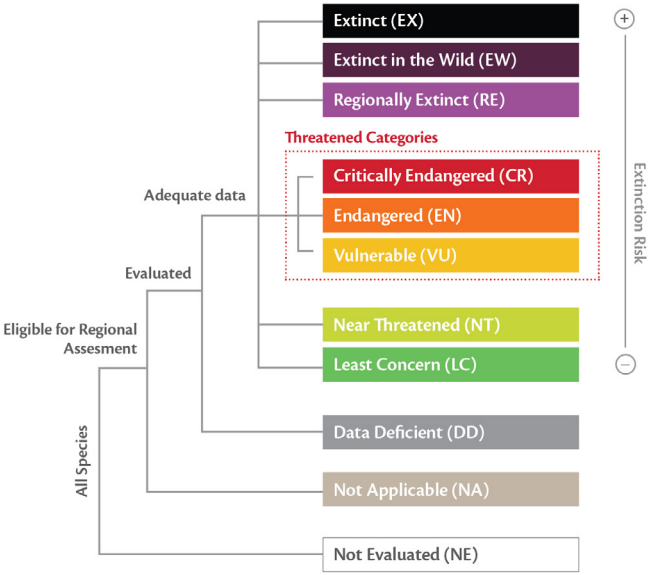


Figure 1: IUCN Red List Categories at the regional scale.

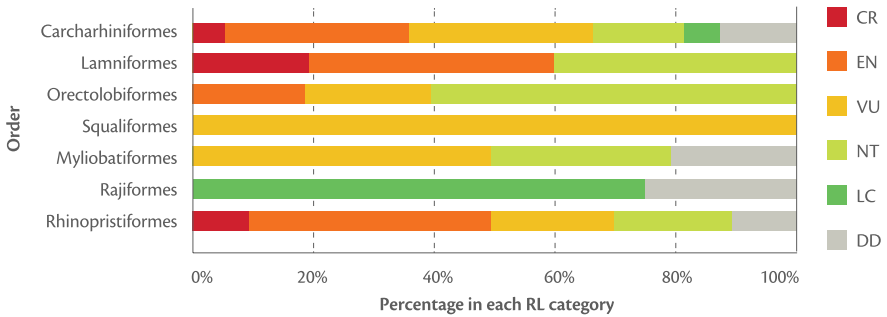


Figure 2. Extinction risk of cartilaginous fishes assessed for the UAE National Red List: number and percentage of species within each IUCN Red List Category.

Outcomes:
Threatened species – priorities for conservation

The risk of extinction was assessed for 80 species of sharks, rays, skates, and their relatives considered native to the UAE using the IUCN Red List Regional Categories and Criteria (Fig. 1), and their distributions within the UAE mapped using GIS. This represents **the first comprehensive assessment of cartilaginous fishes in the UAE** at the national scale (Fig. 2). Regional assessments are among a suite of data used to inform conservation action.

Forty–eight species (60%) of cartilaginous fishes for which sufficient data are available are threatened with regional extinction – see the full report for more details on this statistic. Given the uncertainty surrounding the true status of the species assessed as Data Deficient, the proportion of threatened species could range from 60% to 70%. A combination of intrinsic characteristics (long life span, small brood sizes, and slow population growth) and extrinsic drivers of extinction, especially fisheries overexploitation, increases the risk of regional extinction for many cartilaginous fishes in the UAE. Thirty–three species of cartilaginous fishes, mostly sharks, are known to be landed in UAE fishing ports. Of those, 91% are assessed as threatened or Near Threatened. **There is an urgent need for species–specific population information for many threatened and Near Threatened cartilaginous fishes** to assess the effectiveness of existing trade controls and fisheries regulations in the UAE. For many species, only regional–scale information was available.

Additionally, **species–specific information is extremely limited for some cartilaginous fishes** in the UAE EEZ, **with eight species of cartilaginous fishes categorised as Data Deficient (DD)**, meaning there was insufficient data to apply the IUCN criteria for assessments.

Only **three species** (4%) of cartilaginous fishes included in this regional assessment were assessed as Least Concern (LC).

THREATS TO SHARKS AND RAYS IN THE UAE

The direct and indirect (bycatch) impacts of **fisheries overexploitation** were identified as the primary threat to all threatened cartilaginous fishes in the UAE. UAE fisheries are primarily artisanal and are the second–most important natural resource in the country after oil and gas. However, many fish stocks are considered overfished in UAE waters and in the surrounding Arabian Gulf region and Sea of Oman (Grandcourt 2012, Al–Abdulrazzak et al. 2015, Finucci et al. 2019).

In addition, many species are impacted by **regional overfishing** for meat and the international shark fin trade (Jabado et al. 2014, 2015; Jabado and Spaet 2017). In the past, the UAE has been reported to be a significant regional and global hub for the export and re–export of shark products, including shark fins (Shea and To 2017, Lau and To 2019, Okes and Sant 2019). However, recent legislation and policies have reduced the country's role in the international trade in shark products. For example, the **Ministerial Resolution No. 43 of 2019** regulates shark fishing and trade, including permanent bans on protected species (e.g., those listed in CITES, CMS, and in earlier national legislation), spatial and seasonal fishing bans, and bans on import and re–export of shark fins (excluding those intended for scientific purposes with appropriate permits).

Additionally, the marine environment of the UAE supports diverse and distinctive habitats, including seagrass beds, intertidal mudflats, and coral reefs, that may be impacted by coastal development.

Red List Index (RLI)

The Red List Index (RLI) score for the 2019 assessment of cartilaginous fishes in the UAE is 0.60. A score of 1 indicates that all species are Least Concern, and the lower the value, the faster the set of species is heading toward extinction. This score indicates that cartilaginous fishes face a similar level of threat as marine mammals with an RLI of 0.64. It is clear that the threatened species require continued conservation and management action, as they play a vital role in the health of the UAE's ecosystems. The information compiled in the UAE National Red List of Cartilaginous Fishes, combined with political will and subsequent action, can help to ensure long–term survival of these species in the country.

Management and conservation recommendations

- Improve collection of species–specific trade and fisheries data in the UAE, including nationwide tracking of fishing activities.
- Increase enforcement of and education about existing regulations aimed at protecting cartilaginous fishes.
- Maintain trade controls on the 17 species of sharks, rays, and skates currently listed in CITES Appendix I or II in order to avoid utilisation incompatible with their survival.
- Expand regional and global cooperation in monitoring and managing international trade in shark meat and fins.
- Use the UAE National Red List of Cartilaginous Fishes to inform continued interpretation of the Federal Law No. (11), as it relates to CITES–listed cartilaginous fishes.
- Expand national legislation (e.g., Ministerial Resolution No. 43 of 2019) to encompass all threatened shark species that are not currently listed in CITES or CMS: *Galeocerdo cuvier* (Tiger Shark), *Carcharias taurus* (Sand Tiger Shark), and *Eusphyra blochii* (Winghead Shark).
- Continue investment and capacity building for fisheries management to assess

the effectiveness of existing regulations and guide the formulation of new regulations.

- Evaluate and prioritise species for fisheries research based in part on the UAE National Red List of Cartilaginous Fishes. See the full report for more details.
- Develop science–based quantitative targets for inclusion in the National Plan of Action for the Conservation and Management of Sharks in the UAE (2018–2021).
- Assess the existing network of protected areas for coverage/protection of threatened cartilaginous fishes.
- Consistently limit and mitigate the impacts of future coastal development and of land– and vessel–based sources of pollution in accordance with the Federal Laws No. (23) and No. (24).
- Continue to invest in ocean conservation education and awareness initiatives across the UAE to increase future capacity for conservation and resource management.
- In addition to addressing localised threats in the UAE, concerted movement towards achieving climate neutrality by leaders in government, business, and civil society will benefit ocean conservation initiatives.

Policy and reporting recommendations

The UAE National Red List of Cartilaginous Fishes and accompanying distribution maps can and should be used to:

- **Set biodiversity targets and enhance national reporting** for the UAE's commitments to MEAs, including the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Biological Diversity (CBD), and the UN Sustainable Development Goals (SDGs), including:
    - CBD Aichi Biodiversity Targets 1, 2, 3, 6, 12, 17, 19
    - SDG Targets 12.2, 14.4, 14.6, 14.C, 15.5, 15.5.1, 15.9, 15.c
- **Inform national legislation and priority–setting, including:**
    - Reporting on relevant targets of the National Biodiversity Strategy and Action Plan (2014–2021).
    - Reporting on relevant goals of the National Plan of Action for the Conservation and Management of Sharks in the UAE (2018–2021).
    - Assessing the attainment of strategic objectives outlined in The UAE National Framework Statement for Sustainable Fisheries (2019–2030).
    - Compiling national lists of species of conservation concern.
    - Developing plans, strategies, and policies by the Environment Agency – Abu Dhabi, MOCCAE, and competent authorities and stakeholders.
- **Inform the private sector** through mechanisms such as the International Finance Corporation's Performance Standards and Environmental Safeguards. Civil society can play a key role in research, monitoring, conservation planning and action, and education and outreach.

The continued integration and coordination of environmental policy in the UAE across emirates and across sectors, including extractive industries, fisheries, urban planning, energy, and agriculture, will unify regulatory objectives and ensure the consistency of financial initiatives.of financial initiatives.

Opportunities for capacity building

Training in the application of biodiversity datasets to species– and site–based management and enforcement activities is available through the IUCN Conservation Planning Specialist Group, the IUCN Species Monitoring Specialist Group, and the IUCN World Commission on Protected Areas / Species Survival Commission Joint Task Force on Biodiversity and Protected Areas.

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Read the full report

Ralph et al. (2021) UAE National Red List of Marine Species (https://www.moccae.gov.ae/en/home.aspx)

Visit the UAE National Red List portal (https://gis.moccae.gov.ae/)

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