

IUCN Global Species Programme

MBU

Marine Biodiversity Unit

in partnership with the IUCN Species Survival Commission and Old Dominion University

2018 in Review

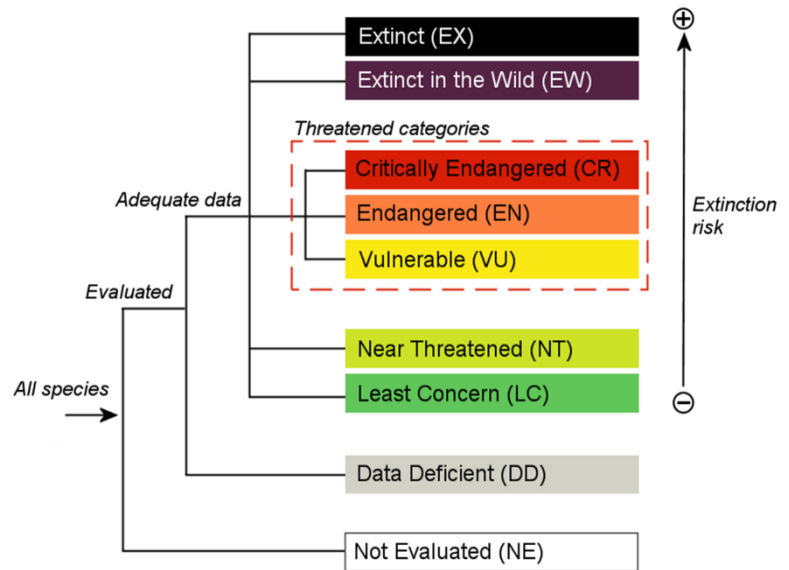


OVERVIEW & ACCOMPLISHMENTS

“The oceans are the planet’s last great living wilderness, man’s only remaining frontier on earth, and perhaps his last chance to prove himself a rational species.”

~John L. Culliney

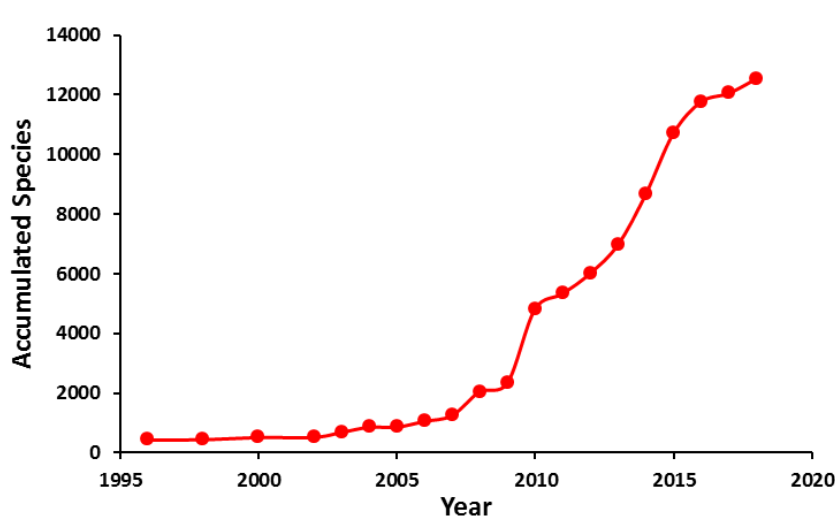
Despite its vast size, our impacts on the ocean and its biodiversity are escalating. Even the most seemingly remote marine ecosystems are displaying signs of human influence: pollution, habitat destruction, overfishing and more. Given these threats, the conservation and preservation of marine biodiversity is essential to maintain the long-term sustainability of our oceans.



IUCN Red List Categories

The primary unit of biodiversity stewardship is the species. Guiding species conservation since the 1960s, the IUCN Red List is the global gold standard for evaluating relative extinction risk. The nine categories use quantitative thresholds to determine which species are exhibiting symptoms of high extinction risk. The IUCN Marine Biodiversity Unit was formed to expand the representation of marine species on the Red List to include a broad taxonomic base.

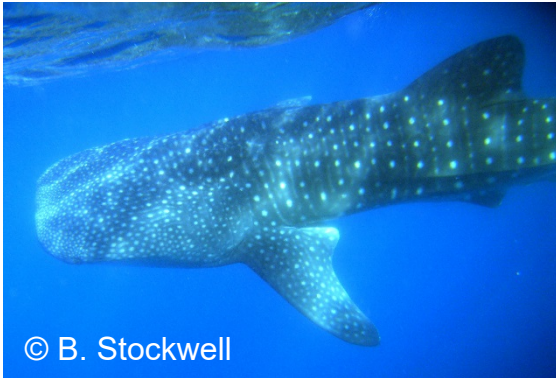
We have made substantial progress towards 20,000 marine species extinction risk assessments. By 2018, the total number of species on the Red List approached 96,000 and marine representation exceeded 13,000 species. This includes almost



Cumulative number of marine species published on the IUCN Red List (excluding birds)

9,000 species of marine and estuarine fishes, nearly half of the most biodiverse group of vertebrates. We provided the tools and practical experience to apply the Red List methodology at four training and assessment workshops in Muscat, Oman; Dumaguete, Philippines; Terengganu, Malaysia; and Veracruz, Mexico. As a result, 35 experts were trained in the Red List methods and about 900 species were assessed.

In 2018, we worked on a variety of projects, including specific Red Listing initiatives and extending beyond assessments to improve the status of marine biodiversity.



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Of the eight major marine regions, the Indo-Pacific hosts the world richest fish diversity. Within this region, the Western Indian Ocean has both the world's largest (Whale Shark) and oldest (Coelacanth) fish species. Funded by the Total Foundation, we are completing Red List assessments for 1,000 marine fishes, including coral-associated fishes and those that are highly-valued for subsistence and artisanal fisheries.


We completed the first assessment of all clupeoid fishes, an initiative funded by the Toyota Motor Corporation. These small, schooling species serve as a vital link between algae and large predators, such as tunas and sea birds. Many, like the Peruvian Anchoveta, also support major commercial fisheries. The results of this project will inform research, promote conservation action, and improve fisheries management.



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Perhaps the least is known about the dark, vast, near-freezing waters of the deep sea. Despite the difficulty in reaching these depths, we leave our mark with overfishing, habitat destruction and plastic pollution. These unique and fragile ecosystems are only slowly being explored and understood. We are continuing to highlight the research needs of the largest ecosystem on earth through Red List assessments of deep-sea bony fishes, such as the mesopelagic lanternfishes.

In addition, we supported IUCN Species Specialist Group activities, particularly the Grouper and Wrasse and Sciaenid groups, and began a national Red Listing project in the United Arab Emirates. Beyond the assessments, we are developing a petrochemical vulnerability index in the Gulf of Mexico and identifying marine KBAs in the Greater Caribbean.



Substantial progress has been made, but action is urgently needed in the face of many threats marine biodiversity, including overexploitation, habitat destruction and climate change. We thank all of those who have supported our efforts in 2018, and look forward to supporting marine biodiversity conservation in 2019 and beyond.

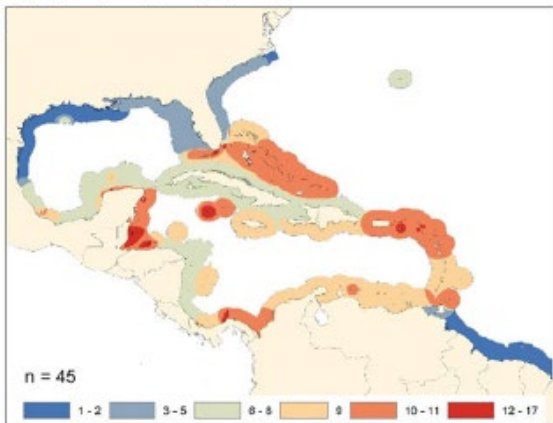
PUBLICATIONS & PRESENTATIONS

Our work has been broadly publicized to scientists, conservationists, managers and others at conferences and through peer-reviewed literature. Two former graduate students and one former undergraduate student published their projects in peer-reviewed journals in 2018.

31 PEER-REVIEWED PUBLICATIONS SINCE 2006

4 PEER-REVIEWED PUBLICATIONS IN 2018

Linardich et al. (2018) Extinction risk and conservation of marine bony shorefishes of the Greater Caribbean and Gulf of Mexico. *Aquatic Conservation: Marine and Freshwater Ecosystems*

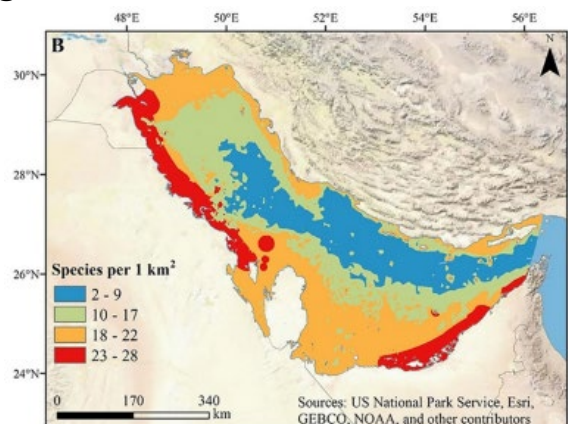


Threatened Caribbean endemic richness

We found that about 5% of the 1,360 Caribbean bony shorefishes are threatened. Endemic species are at a higher risk of extinction: 6% of Caribbean endemics (725 species) and 26% of Gulf of Mexico endemics (46 species) were listed in one of the three threatened categories. Subglobal analyses can highlight species and regions of local concern that might otherwise be overlooked at global scales.

Buchanan et al. (2018) Regional extinction risks for marine bony fishes occurring in the Persian/Arabian Gulf. *Biological Conservation*

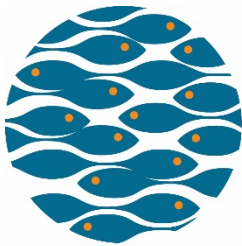
The proportion of regionally threatened marine bony fishes in the Gulf is more than twice that of the Mediterranean Sea and Gulf of Mexico, likely due at least in part to the very small area of highly threatened coral assemblages in the Gulf. Recurrent bleaching events are increasing in frequency and magnitude, resulting in the loss of live coral habitat, particularly of *Acropora*.



Richness of regionally threatened species

STRATEGIC PARTNERSHIPS

As our work at MBU progresses, so too do our strategic partnerships. Our three year partnership with The Deep aquarium in the UK continues to be mutually valuable and effective. As well as continuing to do important work towards key Red List projects, The Deep's Red List Officer has facilitated the initiation of our second major Red List partnership from the Zoo and Aquarium community. Oceanário de Lisboa, in



Oceanário de Lisboa

Portugal, is a leading European aquarium involved in conservation activities in Portugal and abroad. Oceanário de Lisboa, like The Deep, have now employed a full-time Red List Officer dedicated towards marine species conservation. This Red List Officer has been working with the team for 9 months now and has already made substantial contributions to our Mexican Deep Sea Fishes and Global Flatfishes projects as well as leading a project to assess Not Evaluated species held in European aquariums.

ACKNOWLEDGEMENTS

Recognition and thanks go as always to our specialists, who volunteer their time and expertise to further the goals of the MBU. We gratefully acknowledge the numerous organizations and agencies that have supported our work to date, including:

International Union for Conservation
of Nature
IUCN Species Survival Commission
Conservation International
The Deep
Oceanário de Lisboa

Universities and Research Institutes:

Old Dominion University
Arizona State University
Harte Research Institute for Gulf for
Mexico Studies

Granting Agencies

Agence Française de Développement
Gulf of Mexico Research Initiative
MAVA Fondation pour la Nature
Moore Family Foundation
National Fish and Wildlife Foundation
New Hampshire Charitable Foundation
Ocean Park Conservation Fund, HK
Qatar National Research Fund
Thomas W. Haas Foundation
Total Foundation
Toyota Motor Corporation

