



The IUCN Red List of Threatened Species™

Strategic Plan 2017 - 2020



The IUCN Red List of Threatened Species™





THE IUCN RED LIST OF THREATENED SPECIES: STRATEGIC PLAN 2017-2020

Citation: IUCN Red List Committee. 2017. The IUCN Red List of Threatened Species™ Strategic Plan 2017 - 2020. Prepared by the IUCN Red List Committee.

Cover images (left to right) and photographer credits: IUCN & Intu Boehihartono; Brian Stockwell; tiggrep (via Flickr under CC licence); IUCN & Gillian Eborn; Gianmarco Rojas; Michel Roggo; IUCN & Imene Maliane; IUCN & William Goodwin; IUCN & Christian Winter



THE IUCN RED LIST OF THREATENED SPECIES: STRATEGIC PLAN 2017-2020

January 2017

The IUCN Red List Partnership	4
Introduction.....	5
The IUCN Red List: a key conservation tool.....	6
The IUCN Red List of Threatened Species: Strategic Plan 2017-2020	7
Result 1. IUCN Red List taxonomic and geographic coverage is expanded.....	8
Result 2. More IUCN Red List Assessments are prepared at national and, where appropriate, at regional scales	8
Result 3. Selected species groups are periodically reassessed to allow the IUCN Red List Index to be widely used as an effective biodiversity indicator.....	8
Result 4. The IUCN Red List is a scientifically rigorous tool for conservation.....	9
Result 5. IUCN Red Listing capacity built through expanded training programmes	9
Result 6. The IUCN Red List is underpinned by cutting-edge information management technologies and the capacity to support them	10
Result 7. The IUCN Red List is used effectively to inform policy and action.....	10
Result 8. The IUCN Red List is widely communicated and recognized	10
Result 9. The IUCN Red List is sufficiently and sustainably financed	11
Result 10. Strategic oversight is provided to the IUCN Red List.....	11
Annex 1. On regional assessments	12

The IUCN Red List Partnership





Introduction

The concept of biodiversity can seem abstract and overly technical to the casual observer. Species, however, quickly populate the concept and provide a handle that the non-specialist can use to better understand the creatures with which we share the planet.

Encountering species quickly turns theory to reality and can be the basis on which people appreciate the wider scope of biodiversity. Whether it takes place in the wild, in the zoo or arboretum, a tangible encounter can create a meaningful relationship between humans and species; we can observe and touch them, feel affinity toward and be inspired by them, and we can care about their survival and well-being. The billions of dollars spent by birdwatchers, sports hunters and fishermen, gardeners, aquarium keepers, pet owners, and visitors to national parks bear testimony to our deep enjoyment of species. Even if we have little hope of ever seeing one, except perhaps on television (economists call this “existence value”), people derive pleasure from knowing that countless amazing species exist in the wild.

Furthermore, many people appreciate species as our source of food or medicine, providing us with survival and billions of dollars in profits. As reported in the assessment on The Economics of Ecosystems and Biodiversity (TEEB 2010), species play an important role in local, national, and international economies. But for many people, the issue of economics does not bring to bear on the value of species. Rather it is the ethical or religious belief that they deserve to be treated with respect and should continue to exist as part of the planet’s ecosystems, from the abyssal seas to the majestic mountains and everywhere in between.

Biologists and ecologists, such as those contributing to the IUCN Red List, are constantly adding to our understanding and enjoyment of species. While well aware that species cannot be differentiated from the ecosystems in which they live, these scientists focus on particular aspects of individual taxa: their genetics, their role in ecosystems, their relationships with predators and prey, their behaviour, and their relations with humans. This research has been integral to the conservation of the thousands of species we love and depend upon.

IUCN has supported species conservation from its very beginnings. This approach was formalized through the establishment of the Species Survival Commission (SSC) in 1950. The first Red Data Book was published in 1963 under the leadership of Sir Peter Scott and highlighted the most high-profile species. Since then, the *IUCN Red List of Threatened Species*TM (www.iucnredlist.org) has become the most authoritative and internationally accepted system for assessing species’ extinction risk. The IUCN Red List is based on a simple yet robust set of quantitative categories and criteria, with the latest version dating from 2001.

The IUCN Red List is constantly being updated. At the time of writing, the IUCN Red List included assessments for ~82,000 species (version 2016.1). The IUCN Red List system assigns species to one of eight categories based on their risk of extinction. Species in the three categories of **Critically Endangered**, **Endangered** and **Vulnerable** are considered as **‘threatened’**. **Data Deficient** species are those for which insufficient or inadequate information is available to make an informed assessment. Rates of Data Deficiency vary wildly among groups, from 1% of birds to nearly half of all cartilaginous fishes (sharks, rays and allies) and freshwater crabs.

To date, comprehensive species assessments have been completed for a number of taxonomic groups, including: all amphibians; mammals; birds; cartilaginous fishes; reef-building corals; freshwater crabs, crayfishes and caridean shrimps; mangroves; seagrasses; conifers; cacti; and cycads. Comprehensive assessments are ongoing for many other taxa, including all reptiles, fishes and a number of plant and invertebrate taxa, in order to remedy known biases in coverage, but even so the majority of described species remain Not Evaluated (including most plants and the vast majority of invertebrates and virtually all fungi and algae).

A complementary strategy, involving a sampled approach, has been developed to increase coverage of species groups which have to date been under-represented on the IUCN Red List, and for which



global, comprehensive assessments may be difficult or even unachievable due to knowledge, time and financial constraints. Assessments using the sampled methodology have been undertaken for the dragonflies and damselflies, reptiles, and bony fishes, and are currently underway for a number of other taxa.

Guidelines for applying the IUCN Red List Categories and Criteria at regional and national levels have been developed to help, in particular, those countries developing national Red Lists.

Every assessment on the IUCN Red List includes a list of the threats faced by the species. The most salient factors threatening species globally are: habitat loss and degradation; overexploitation; invasive species; pollution, and global climate change. The description of threats, status and trends in IUCN Red List assessments provides the basic information to catalyse action for each species.

The IUCN Red List: a key conservation tool

The IUCN Red List is a critically important tool for building support for species conservation. Virtually all countries have established protected areas, almost all are Parties to the Convention on Biological Diversity (CBD), all have laws in place to protect threatened species, and many have non-governmental conservation organizations dedicated to species. The IUCN Red List influences governments and international environmental instruments (CBD, CITES, IPBES, Ramsar, World Heritage, and many others), but it has no powers of enforcement, and depends on the quality of its science to convince the relevant agencies to adopt its results. The IUCN Red List remains inadequately funded, which limits the rate at which it can assess more species and the effort it can devote to promoting the conversion of the IUCN Red List findings into conservation action. It depends on the support of an outstanding network of volunteers, many of whom would be able to contribute more if they were better supported. It must also operate within the constraints of a world where nearly a billion people remain undernourished, calling for conservation actions that also address the needs of the rural poor who often live among the most threatened species, and are essential to their conservation. This Strategic Plan intends to address such weaknesses.

With sufficient funding, effective law enforcement, removal of the major threats, solid research, appropriate technology, and perseverance, no threatened species need ever become Extinct, and many could return to play their historical role as part of the complex natural ecosystems that have enriched planet Earth. The IUCN Red List of Threatened Species supports this effort as effectively as possible by providing reliable information on the status and trends of species, as well as the threats to them.



THE IUCN RED LIST OF THREATENED SPECIES: STRATEGIC PLAN 2017-2020

This Strategic Plan specifically addresses Resolution WCC-2012-Res-017 adopted at the 5th World Conservation Congress requesting “the IUCN Species Survival Commission and the Director General to ... clarify agreed strategic priorities for the IUCN Red List to the year 2020, to make its timing consistent with the Aichi Targets of the Strategic Plan for Biodiversity 2011–2020...” This plan puts the goals of the IUCN Red List into action, as part of the IUCN Programme 2017-2020 (in which the IUCN Red List is stated as a priority knowledge product), and specifically as a component of the IUCN Species Strategic Plan 2017-2020. Note that this plan covers 2016, the final year of implementation of the 2013-2016 plan.

The IUCN Red List Strategic Plan includes the elements from the IUCN Programme that are relevant to the IUCN Red List and were drafted by the IUCN Red List Committee, which consists of representatives from the SSC, the Global Species Programme, and representatives of the Red List Partners. The primary purpose of the Red List Partnership is to advance the development, maintenance, promotion and use of *The IUCN Red List of Threatened Species*TM. It serves as an important means for the Parties to coordinate activities related to biodiversity assessment and analysis, and to share information, expertise and insights in ways that enable the Parties to achieve their own strategic goals for science-based biodiversity conservation. The current Red List Partners include: BirdLife International, Botanic Gardens Conservation International, Conservation International, Royal Botanic Gardens Kew, Texas A&M University, Department of Animal and Human Biology, Sapienza University of Rome, and Zoological Society of London. Red List Partners assume direct responsibility for the delivery of many of the targets in the strategic plan.

The goal of the IUCN Red List of Threatened Species is: *To provide information and analyses on the status, trends and threats to species in order to inform and catalyse action for biodiversity conservation.*

This goal includes the "traditional" role of the IUCN Red List in identifying particular species at risk of extinction. While the role of the IUCN Red List in underpinning priority-setting processes for single species remains of critical importance, the goal has been expanded to encompass the use of data from the IUCN Red List for multi-species analyses in order to identify and monitor trends in species status and to catalyse appropriate conservation action.

To achieve this goal, the IUCN Red List has three main objectives:

1. To establish a baseline from which to monitor the change in status of species;
2. To provide a global context for the establishment of conservation priorities at the local level;
3. To monitor, on a continuing basis, the status of a representative selection of species (as biodiversity indicators) that cover all the major ecosystems of the world.

With these objectives in mind, the IUCN Red List Committee sets forth in this Strategic Plan ten key Results (each encompassing a suite of targets) as its measures of success by the year 2020:

1. IUCN Red List taxonomic and geographic coverage is expanded
2. More IUCN Red List Assessments are prepared at national and, where appropriate, at regional scales
3. The IUCN Red List Index is widely used as an effective biodiversity indicator
4. The IUCN Red List is a scientifically rigorous tool for conservation
5. IUCN Red Listing capacity built through expanded training programmes
6. The IUCN Red List is underpinned by cutting-edge information management technologies
7. The IUCN Red List is used effectively to inform policy and action
8. The IUCN Red List is widely communicated and recognized
9. The IUCN Red List is sufficiently and sustainably financed
10. Strategic oversight is provided to the IUCN Red List

Result 1. IUCN Red List taxonomic and geographic coverage is expanded

Studies of various taxa of plants, animals, fungi, and algae indicate that different taxa often have very different patterns of distribution, based on factors such as habitat requirements, evolutionary history, etc. Hence no taxonomic group can adequately serve as a surrogate for identifying threats, status, trends or conservation requirements in other taxonomic groups. For the IUCN Red List to inform and catalyse action for biodiversity conservation in general, it is therefore necessary to assess a wide range of species across all major taxonomic groups to establish a suitable baseline that covers all major ecosystems. Broader taxonomic coverage will make the IUCN Red List useful to a wider range of potential users of the information generated through the IUCN Red List process.

Setting targets for the taxonomic and geographic expansion of the IUCN Red List means reaching out to groups of biologists who are studying taxa that have not previously been included on the Red List, while simultaneously maintaining high quality assessments for the taxa that have already been treated. Selection of additional taxa will therefore to some extent depend on the availability of data, expertise and resources. These factors were borne in mind in setting the targets below. In addition, the following points were also considered:

- Taxonomic and geographic expansion must be mindful of the need to ensure that existing assessments are kept current, and that schedules for reassessments (to ensure achievement of Result 3) are met;
- The availability of a widely accepted taxonomic list for the taxonomic group concerned and some degree of taxonomic stability;
- Assessments of terrestrial vertebrates are incomplete;
- Assessments, through complete or sampled approaches, of taxa representative of particular ecosystems, especially freshwater, marine and arid lands, are grossly insufficient;
- Assessments of plants, fungi and invertebrates need to be substantially increased to represent the diversity of life adequately;
- Representation of species of economic importance and value to human livelihoods is insufficient;
- Many species, including flagship species, are in rapid decline, and the likelihood of their survival will be enhanced if their status is closely monitored.

Result 2. More IUCN Red List Assessments are prepared at national and, where appropriate, at regional scales

The ongoing development of national and regional Red Lists and the development of MDG and CBD targets requiring national measures of biodiversity change, indicates that these are providing important guidance to national and regional conservation efforts. National and regional assessments¹ also help build expertise within a given region, thereby building the critical mass of conservation interests that will be required to conserve biodiversity and meet the Aichi Targets, and the foundation from which to measure progress towards them. The preparation of Red List assessments at sub-global levels further enables far more information to be generated and fed into the global assessments. All countries need to prioritize national Red Listing in order to contribute to the monitoring of Millennium Development Goal 7, and also the Aichi Biodiversity Targets; indeed, IUCN members have agreed Resolution WCC-2012-5.018 to support the development and implementation of national and regional red lists. Consistent use of the IUCN Red List Criteria will enable comparisons between countries in terms of their biodiversity conservation performance.

Result 3. Selected species groups are periodically reassessed to allow the IUCN Red List Index to be widely used as an effective biodiversity indicator.

¹ See Annex 1

Indicators are essential for assessing progress towards targets addressing biodiversity loss, such as the Aichi Targets in the CBD Strategic Plan on Biodiversity, and the United Nations Millennium Development Goals. For tracking trends in the state of biodiversity, indicators focus at the level of genes, populations, species and ecosystems. IUCN developed the Red List Index (RLI) as a biodiversity indicator at the species level, with the index measuring trends in the extinction risk of sets of species. Initially tested on birds by BirdLife International, the approach has since been applied to amphibians, mammals and corals. The method and formula published initially has since been revised and improved. More recently, methods have been developed for producing an aggregated index across multiple taxa, and for calculating confidence intervals (primarily based on the uncertainty introduced by Data Deficient species). The first national RLIs (i.e. indices based on repeated assessments of extinction risk at the national scale) have also recently been published for Australia and Denmark. RLIs have been widely adopted at the policy level, being used to report against the CBD 2010 Biodiversity target, the UN Millennium Development Goals, by CITES, CMS (and its agreements: AEWa and ACAP), and for regional policy fora (e.g., SEBI in Europe). It has been well profiled in global assessments such as the Global Biodiversity Outlook-3 and Global Environment Outlook 5. Furthermore, the RLI has been identified as being relevant for reporting on half of the Aichi Targets for 2020.

However, the taxonomic breadth of the RLI needs to be expanded in order to make it more representative, existing indices for comprehensively assessed groups need to be updated, broader application at the national scale is needed, incorporation of the RLI into scenario models would be beneficial, and further technical developments would be desirable. Finally, continued promotion of the RLI is needed by demonstrating its utility to a wide range of potential interest groups.²

Result 4. The IUCN Red List is a scientifically rigorous tool for conservation

The credibility and scientific rigour of the IUCN Red List assessment is built upon two key facets: 1) the collation of a set of expert-reviewed data on the distribution, abundance, population trends, ecology, habitat preferences, and threats (and, where possible, utilization and conservation actions) for all currently recognized wild species; and 2) careful and qualified application of the IUCN Red List Categories and Criteria based on an interpretation of these data. The first of these requires that assessors compile and document this information, as articulated in the “Required and Recommended Supporting Information for IUCN Red List assessments” (which sit as an Annex to the Red List Authority Terms of Reference), and that expert review of the content of these data is sought as far as possible; the second involves consistent and correct application of the IUCN Red List Categories and Criteria by the assessor/s (which is facilitated in part by the *Guidelines for Using the IUCN Red List Categories*) and compliance with the stipulated review protocols (intended to ensure that proposed Red List categories and supported by the information presented, and that the criteria have been appropriately applied). By ensuring that all assessments on the IUCN Red List fully comply with the minimum supporting information requirements, and fostering as far as possible careful application of the IUCN Red List Categories and Criteria, IUCN hopes to ensure that assessments are transparent, defensible and repeatable, and thereby avoid criticisms to the contrary.

Result 5. IUCN Red Listing capacity built through expanded training programmes

Credibility of the IUCN Red List depends on assessors applying the IUCN Red List Categories and Criteria consistently and correctly, and this requires building capacity through training. Given the unequal distribution of biodiversity on the planet, there is particular need to increase Red Listing capacity in megadiverse developing tropical countries. Furthermore, given the aforementioned need to expand development of national and regional Red Lists that correctly apply the IUCN Red List Criteria following the regional guidelines, building Red List expertise at these spatial scales is of increasing priority. This capacity building effort will help generate high-quality information on species and thereby

² Note that initial Assessments carried out for the purpose of eventually calculating a Red List Index following a later reassessment are covered above under Result 1.



increase the scope (through the incorporation of Red List assessments of endemics undertaken at national / regional levels) and credibility of the IUCN Red List.

Result 6. The IUCN Red List is underpinned by cutting-edge information management technologies and the capacity to support them

As of 2016, the IUCN Red List manages assessment data for more than 85,000 species (with spatial data for two-thirds), and the Red List website receives more than 6 million visits (sessions) per year from about 4 million visitors. As the IUCN Red List continues to expand both taxonomically and in terms of content, world-class information technologies will be needed to support the actual management and storage of the underlying data, and it will be essential to maintain and build appropriate staffing capacity to oversee this information management. We also need to facilitate and promote public consumption of IUCN Red List data via improved and enhanced online search, download and analytical functionalities. In this regard, a particularly important advancement will be the need for the Species Information Service to integrate, under one umbrella, both spatial *and* tabular data (requiring GIS technologies to be mutually compatible with tabular ones). An impressive range of online information sources and technology companies produce a unique environment for the IUCN Red List to engage with and maximize its impact through strategic partnerships linked to its 10-year plan.

Result 7. The IUCN Red List is used effectively to inform policy and action

Already, IUCN Red List data and information are increasingly used to inform policy and action among governments, international agencies, and the private and public sector. Many conservation conventions (notably CITES, CBD, Ramsar, CMS, UNCLOS, World Heritage, and the various taxa-based conventions) are drawing on these data to help guide policies. Concepts developed through the use of the IUCN Red List are also guiding national policies in many countries and regions. Funding agencies, such as GEF, foundations, and international non-governmental organizations, are also using the IUCN Red List to determine policies on conservation investments. The challenge is to further enhance the IUCN Red List as a means of supporting policy and action for conservation, involving action promotion of the IUCN Red List in various policy fora. Species policy work will be linked to the policy work of other IUCN commissions and programs, and through the IUCN Red List Partnership and other IUCN Members. IUCN Red List information can help inform and guide corporate biodiversity responsibility, and can enable the incorporation of biodiversity into Environmental Impact Assessments and other processes (e.g., safeguard policies of finance lending institutions).

Result 8. The IUCN Red List is widely communicated and recognized

The IUCN Red List, reflecting a global effort involving the world's leading species experts and numerous conservation agencies, is already an established global identity. It is widely used by researchers and the mass media, but now needs to be packaged and promoted more effectively. Making the IUCN Red List a more recognized global brand will increase the visibility of the extinction crisis, build public support, and open new possibilities for making the IUCN Red List financially sustainable. Conservation of species ultimately depends on public support that drives political will. Different cultures often have different ways of thinking about species, judging from their folk tales, artistic approaches to nature, ways of treating wild animals, and other forms of behaviour. Information about species is often delivered to the public through mass media, visits to zoos, and trips to national parks. The messages provided through the IUCN Red List can help build broader public support, by highlighting the multiple values of species to human wellbeing, as well as promoting the ethical right of all species to survive. Achieving this result will require a broad coalition among conservation organizations, religious groups, the mass media, and many others. The information generated by the IUCN Red List and its applications will be designed to support such a coalition for stemming the extinction crisis.



Result 9. The IUCN Red List is sufficiently and sustainably financed

The anticipated growth of the IUCN Red List will necessitate considerable new investment to ensure that the technologies, resources and procedures underpinning it are sufficient to deliver this globally important knowledge product. Currently, the IUCN Red List is funded mainly through project grants and this approach provides neither the efficiency nor the sustainability needed to maintain the Red List or to attain the targets outlined in this plan. While contributions from IUCN and project donors will remain an important source of financial support, they must be augmented by other sources that can fund the core costs of running the Red List. In particular, it will be necessary to secure revenue from commercial users of the data.

Result 10. Strategic oversight is provided to the IUCN Red List

It is important that the delivery of the IUCN Red List achieves some very specific targets leading up to 2020 if it is to contribute maximally to the global community; this will only be achieved if the whole IUCN Red List process is subject to close strategic oversight. This oversight will be provided by the IUCN Red List Committee, which serves as the higher-level governance mechanism for the IUCN Red List.



Annex 1. The IUCN Red List Strategic Plan 2017-2020: Results, targets and sub-targets.

Explanatory notes: Under Target, comprehensive denotes all species in a given taxonomic group, non-comprehensive denotes a subset of species, and sampled denotes a random sample in accordance with the SRLI methodology. Under Sub-target, numbers in parentheses after Results 1-3 reflect the number of species to be assessed/reassessed. Resource level is generally indicated as Low (<US\$10,000), Medium (US\$10,000-100,000) and High (US\$>100,000). Target date reflects a realistic date by which the target is expected to be achieved assuming appropriate funding. Responsible (reporting) denotes the SSC group or individual responsible for reporting purposes; responsible (ultimately) denotes the SSC group or individual responsible for auctioning the target/sub-target.

Annex 2. On regional assessments

Regional assessments are those that have assessed extinction risk at a subglobal scale by following the Guidelines for Application of IUCN Red List Criteria at Regional Levels. This involves applying the global categories and criteria at a subglobal scale and then potentially adjusting the category for each species by considering the connectivity to populations outside the scope of the assessment (and the status of such populations). This approach can be applied at the national scale (“National assessments”), subnational scale, multi-country scale (e.g., European Union), or at a biogeographical scale (e.g., Gulf of Mexico, Baltic Sea).

It is important to distinguish Regional assessments from Global assessments that are implemented within a particular region (although this distinction is often overlooked or misunderstood). The latter involves applying the IUCN Red List Categories and Criteria to species within a geopolitical or biogeographic unit. This is typically done as part of a wider effort to complete assessments for an entire taxonomic group (e.g., the Global Reptile Assessment, Global Marine Species Assessment, etc). For species endemic to the geopolitical or biogeographic unit, these are complete Global assessments. For species that also occur beyond the region, these assessments represent incomplete Global assessments, which become complete when information from beyond the region is added. Past experience has shown that funders are often willing to support red listing efforts for particular regions (whether geopolitical or biogeographic), and workshops bringing together relevant experts for a region can also be a cost-effective means of data-gathering.

While in theory, one could assess extinction risk at global, national, and one-or more regional scales for all species, the multiple different categories at which the same species could legitimately qualify at these different scales can be potentially confusing, and can distract and divert or dilute funding and conservation attention from agencies, organisations and individuals away from the species that are the highest global conservation priorities. It is therefore important to be clear about when it may be useful to carry out sub-global assessments in addition to global assessments. National assessments clearly have resonance and relevance given that conservation actions are often prioritised, funded, coordinated and implemented at a national scale. Regional assessments (ie those for a multi-country geopolitical or biogeographic unit) are strategically useful under specific circumstances as an addition to National and Global Assessments. In particular, they may be useful if there is an appropriate policy or implementation mechanism, adequate funding and capacity to address the priorities (for actions, places and taxa) generated by the assessment that are additional to those priorities from global assessments in the region, and if there is informed demand from the region and adequate funding to support the assessment process.

Examples of appropriate Regional assessments include those for the European Union (which has legal mechanisms for protecting taxa and funding conservation priorities at the EU-scale), the Mediterranean sea (for which the Barcelona Convention provides an equivalent policy mechanism), the Arabian Peninsula (which comprises a contiguous and coherent biogeographic region and political unit with existing mechanisms for region-wide political coordination and cooperation) or for the spatial area covered by a Regional Fisheries Management Organisation (for the particular fish species/taxa/stocks managed by it). Examples of inappropriate Regional assessments might include birds and mammals for a set of Caribbean islands or birds for a set of Pacific island states. In these cases there are existing Global assessments for the species, and in some case existing National assessments, but limited capacity and resources to tackle these existing conservation priorities, and no appropriate regional-scale policy mechanisms or other implementation mechanisms or funding sources to tackle any additional conservation priorities that would be produced by a Regional assessment.