The IUCN Red List of Threatened Species™

Strategic Plan 2013 - 2020

IUCN SSC Species Survival Commission

THE IUCN RED LIST OF THREATENED SPECIES:

STRATEGIC PLAN 2013-2020

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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 recent 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, the world's leading conservation organization, 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 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 and the version launched at the Rio+20 meeting in June 2012 included 63,837 species. It 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'**. The June 2012 version of the IUCN Red List included 19,817 threatened species: 41% of amphibians, 33% of reef-building corals, 25% of mammals, 13% of birds, and 30% of conifers – an indication of the grave threat to species. **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 all of the world's amphibians; mammals; birds (most recently, 2012); cartilaginous fishes; reef-building corals; freshwater crabs; freshwater crayfishes; mangroves; seagrasses; conifers; and cycads. Comprehensive assessments are ongoing for many other 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 international trade in threatened species is being regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), to which 175 countries are Parties. IUCN is also part of a global coalition with the World Bank and the Global Environment Facility, called Save Our Species, which announced its first 23 grants early in 2012 (see www.SOSpecies.org).

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 2013-2020

This Strategic Plan specifically addresses a Resolution adopted at the 5th World Conservation Congress (WCC-2012-Res-017) that "requests 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 adopted by governments at the Conference of the Parties to the Convention on Biological Diversity, held in Nagoya, Japan, in 2010." This plan puts the goals of the IUCN Red List into action, as part of the IUCN Programme 2013-2016 (in which the IUCN Red List is stated as a priority knowledge product), and specifically as a component of the IUCN Species Strategic Plan 2013-2016. However, the IUCN Red List Strategic Plan extends to 2020, reflecting the need for a longer-term perspective, especially because the Convention on Biological Diversity has agreed a Strategic Plan for Biodiversity 2011-2020, including the Aichi Biodiversity Targets. The updated Global Plant Conservation Strategy also extends to 2020, and the UN has declared this the "Decade for Biodiversity".

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, Global Species Programme, and representatives of the Red List Partners (who have committed to provide technical or financial support, and include BirdLife International, Botanic Gardens Conservation International, Conservation International, Microsoft, NatureServe, Royal Botanic Gardens Kew, Sapienza Universita di Roma, Texas A&M University, Wildscreen, and Zoological Society of London).

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 recognized as a global brand
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

Rationale for Priorities

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.

2013-2016 Targets

- Red List Authorities and/or Specialist Groups are established for prioritized freshwater, marine, invertebrate and plant taxa that are currently lacking them (ongoing);
- Fully documented, assessments are completed for the following groups:
  - *Terrestrial vertebrates*: reptiles (2016)
  - *Freshwater*: freshwater shrimps (2013); freshwater anomuran crabs (Aeglidae) (2014); freshwater bivalves (2014); freshwater fishes (2016); freshwater gastropods (2016); selected families of regionally appropriate aquatic plants (2016); mid-term formal gap analysis completed for freshwater taxa to identify critical groups that should be added to IUCN Red List to address specific conservation/ecology questions not already covered (2015); SRLI – freshwater molluscs (2013);
  - *Marine*: commercial sea-cucumbers (2013); cone snails (2013); oysters (2014); cephalopods (2014); abalones (2015); giant clams (2016); marine algae (2016); and marine fishes (2016);
  - *Invertebrates*: dung beetle representative sample (2014); dragonflies (2016); bumblebees (2016); selected taxonomic and/or functional groups and/or habitat specialists among Lepidoptera, either in a widespread geographical context (swallowtails) and/or in specific areas (e.g., South Asia and Brazil) (2016); European grasshoppers, bush crickets and crickets (2016), and South African bush crickets (2015); land crabs (2016); selected terrestrial gastropod groups in particular regions (e.g., Sri Lanka and the Atlantic Forest, Brazil) (2016); South Asian millipedes (2016); selected groups of South Asian spiders (e.g. tarantulas) (2016); infrastructure established to enable future assessments of priority taxa/functional

groups/habitat specialists identified in the ICSC priority list (e.g., hoverflies, spiders, millipedes, cave fauna in selected geographical areas) (2015);

- *Plants*: Economically important Plants - 300 European medicinal plants (2014), 1300 priority crop wild relatives (2016), WHO monograph species (2016), CITES-listed medicinal plants (2016), 100 FairWild species, palms (2016), commercial timber trees (2016); SRLI – 1500 bryophytes (2013), 1500 ferns, 1500 legumes and 1500 monocots (2014); Flagship species – cacti (2013); carnivorous plants (2015); selected tree groups (magnolias, oaks, maples, ebonies, birches) (ongoing – completed 2016); 4000 orchids (2016); Regional subsets - endemic plants in the Eastern Arc Coastal Forests of East Africa and the Caucasus (2013); Indochina (2013); Mediterranean (2014); North America (2015) and Pacific islands (2016);
- *Fungi:* Criteria for selecting fungal groups to assess (2013), set up process and concluded to identify the tractable groups (2013), and fundraising initiated to do the assessments (2014); an assessment of the impacts of nitrogen deposition on biodiversity is completed, using certain tractable fungal groups as indicators (2016);
- *Thematic*: marine by-catch species (fishes and invertebrates) (2014); commercial fisheries species (2014)

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

Rationale for Priorities

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 assessments[1] 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.

2013-2016 Targets

- National and regional Red Lists expanded to cover 70% of countries by 2016, with 75% of countries using the IUCN Red List Categories and Criteria;
- By 2013 priority countries identified for new national Red Lists, following a prioritisation to focus on those with high endemism of species (gaps in global IUCN Red List) with existing global species assessment data used to catalyse national assessments;
- Large bilateral fund created to provide resources for countries that require financial support to develop and implement National Red Lists (2016);
- National Red List indices and planning tools further tested and developed with the publication of a paper outlining methods (2015);
- By 2016, five National Red List meetings held bringing experts to share experience and develop national-level Red List tools;
- By 2016, 50 individuals trained in the use of the IUCN Red List Category and Criteria capable of assisting with the development of National Red Lists;

[1] See Annex 1

- National Red List website, linked to the global IUCN Red List website, with a searchable database of all National and Regional Red Lists, as well as training materials including on-line modules and a list of expert trainers (2015);
- Software in place to help store, manage and analyse National or Regional Red List assessments (stand-alone SIS) (2014);
- An online tool providing countries with a mechanism to upload spatial data associated with national-level assessments, thereby facilitating spatial data queries and informing conservation planning and environmental impact assessments (2016);
- Coordination with National Red listing processes leads to the addition of at least 1000 national endemics onto the global IUCN Red List, taking advantage of new initiatives from around the world (e.g. Brazil, China, India), focusing especially on plants (2016);
- Regional assessments:
  - All marine fishes in Oceania, Europe, Caribbean and West Africa assessed regionally (2016)
  - Regional assessments (Europe):
    - all European marine fishes (2014)
    - all European bees (2014)
    - priority medicinal plants (2014)
    - assessments of selected invertebrate groups (grasshoppers/orthoptera, water beetles, remaining terrestrial molluscs, marine molluscs, remaining saproxylic beetles, hoverflies and/or corals) and selected plant groups (trees, legumes, bryophytes, charophytes and/or fungi) initiated (2016)
    - re-assessment of all European mammals started (2016)
  - Regional assessments (Mediterranean):
    - all butterflies (2013)
    - selected dung beetles (2014)
    - selected saproxylic beetles (2014)
    - selected anthozoa (2014)
    - assessments of selected invertebrate groups (grasshoppers/orthoptera, water beetles, and/or marine molluscs) and selected plant groups (charophytes, crop wild relatives/legumes) initiated (2016)
    - re-assessment of all Mediterranean mammals started (2016)

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

Rationale for Priorities

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]

- 1st generation RLIs (i.e., an RLI based on two data points, necessitating either complete reassessments or employing a retrospective evaluation for an earlier time point alongside an initial assessment) for:
  - Comprehensively assessed groups: conifers (2013); cartilaginous fishes (2016); freshwater crabs (2016);
  - Selected species used for food and medicine (bushmeat and medicinal plants) (2016); selected crop wild relatives (2016);
  - Sampled groups: reptiles; fishes; butterflies; dragonflies; plants (monocots, legumes, bryophytes and ferns) (2016);
- 2nd generation RLI's (i.e., three or more data points), necessitating complete reassessments of all species or employing a retrospective assessment, completed for:
  - amphibians (2014, 3rd assessment), mammals (2015, 3rd), reef-building corals (2016, 3rd), cycads (2016 3rd); East African freshwater species (2016, 2nd), birds (2016, 7th);
- By 2016, the number of national (and, where appropriate, regional Red List Indices) expanded, prioritising countries with high levels of endemism and National Red Lists using the IUCN system;
- National RLIs calculated based on disaggregation of global data, where appropriate;
- RLI incorporated into global biodiversity scenario modelling methods by engaging with appropriate research institutions; results published (2016);
- Methods developed and published for calculating uncertainty in RLIs based on uncertainty in underlying parameter estimates (2015);
- RLI incorporated into global biodiversity scenario modelling methods by engaging with appropriate research institutions; results published (2016);
- Methods developed and published for calculating uncertainty in RLIs based on uncertainty in underlying parameter estimates (2015).

<u>2017-2020 Targets</u>

- RLIs updated for birds (2020), amphibians (2019), mammals (2020), and other groups as feasible;
- Aggregated and disaggregated RLIs produced and profiled in publications for the 2020 Aichi Targets (2020), IPBES and elsewhere as appropriate.

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

Rationale for Priorities

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

[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.

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.

2013-2016 Targets

- the *Guidelines for Using the IUCN Red List Categories* are updated and maintained annually to allow users to interpret and apply the Red List Categories and Criteria consistently and appropriately in global assessments;
- the *Guidelines for Using the IUCN Red List Categories* specifically include guidance on (2014):
  - guidance on estimating uncertainty in IUCN Red List parameters,
  - criteria for determining whether a population can be considered "wild" for the purposes of including in an IUCN Red List assessment,
  - provide advice on incorporating the risk to species of climate change (through, for example, Criterion E),
  - using distribution maps to estimate Red List Criteria parameters (EOO and AOO);
- the *Guidelines for Application of IUCN Red List Criteria at Regional levels* are updated and maintained annually to allow users to interpret and apply the Red List Categories and Criteria consistently and appropriately in sub-global assessments;
- tools to facilitate calculation / estimation of Red List parameters, such as the worksheets for calculating *generation length* and *population reduction under Criterion A*, are maintained and supported;
- The *Documentation Standards and Consistency Checks for IUCN Red List Assessments and Species Accounts* are maintained and updated annually;
- Clear guidance on mapping standards and protocols is incorporated into the *Documentation Standards and Consistency Checks for IUCN Red List Assessments and Species Accounts* (2013);
- Clear Terms of Reference in place for IUCN SSC Red List Authorities, including clarification of the roles of Global Species Programme assessment units and IUCN Red List Partners, and a revised Annex outlining the "Required and Recommended" supporting information fields that must accompany all IUCN Red List assessments (2012);
- All new assessments feeding onto the IUCN Red List are in full compliance with, at a minimum, the "Required" supporting information fields for IUCN Red List assessments (ongoing) which includes the requirement for all assessments to be reviewed by at least one reviewer;
- "Required" supporting information fields completed for all completely assessed groups and all groups assessed through the sampled approach (2016);
- Existing classification schemes (and guidance notes on classification schemes) reviewed and revised as required (including any documentation), and new classification schemes developed and documented as appropriate (ongoing); and
- Engage as appropriate with any developments to design objective, transparent and repeatable criteria for a "Green List" of species that are successfully conserved (2016).

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

Rationale for Priorities

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

2013-2016 Targets

- Training tools and materials (covering IUCN Red List categories and criteria, the Species Information Service, and mapping protocols) produced and expanded (including presentations, case studies, tutorials, and exercises for online and workshop training, plus additional online resources as possible, e.g. webinars) and necessary support (e.g., advice, in-person training) in place for the following: national Red List initiatives; Red List Authority Coordinators and SSC Members; Red List Partners; Global Species Programme; and IUCN Regional Office staff (2013);
- All IUCN Red List training resources translated into official IUCN languages (2014);
- Certification scheme in place for IUCN Red List assessors and for IUCN Red List trainers (2013);
- At least 200 IUCN Red List assessors trained and certified (2016);
- At least 35 IUCN Red List trainers trained and certified as follows: Red List Partner staff (10 people); SSC members (10), IUCN Regional Office staff (5); and Global Species Programme staff (10) (2016);
- Dedicated Red List training website established to provide Red List assessors easy access to training resources, notices and updates, as well as to provide certified Red List trainers with access to training-relevant resources and materials and to facilitate dynamic interaction between trainers (2014).

2017-2020 Targets

- All IUCN Red List training materials and relevant documents translated into other priority languages (especially Portuguese, Chinese and Arabic) (2017);
- IUCN Red List Training network plan developed and implemented (2018);
- Regional IUCN Training hubs established to decentralize process (2018);
- At least 400 Red List Assessors trained and certified (2020).

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

Rationale for Priorities

The IUCN Red List manages assessment data for more than 63,000 species (with spatial data for two-thirds), and the Red List website receives more than 4,200,000 visits per year. As the 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 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 Red List to engage with and maximize its impact through strategic partnerships linked to its 10-year plan.

2013-2016 Targets

- Establish an Informatics Working Group under the auspices of the Red List Committee to provide advice on the use of technology in support of the Red List information systems, provide mechanisms for mutual sharing of technological solutions among and beyond Red List partnerships, and provide coordination among the Red List partners across bilateral interaction with technology companies regarding support for handling Red List data (2013);
- The integrity checker is implemented, whereby SIS includes software 'safeguards' that assure adherence to all documentation requirements (2013);
- Technological barriers to dynamic publication of assessments to the Red List website are overcome, thereby facilitating transition away from restrictive bi- or triannual updates (2014);
- Functionality in place for handling taxonomic change and dynamism (specifically, new species and conflicting taxonomic treatments) in SIS (2014);
- Facility to enable spatially derived querying and download of data from the IUCN Red List website (2014);
- Software and functionality developed to optimize mapping/creation of species distributions for IUCN Red List assessments (2014);
- Spatial data contribution portal, incorporating quality checks, developed to facilitate the submission of maps and integrated within the Species Information System (2014);
- Geographic Information System (GIS) data and functionality seamlessly integrated into the Species Information Service (SIS) (2015);
- Fully integrate assessments from external assessment databases into SIS:
  - Develop and implement an interface/toolkit for importing assessments and supporting data from external database systems (e.g., NatureServe, RBG Kew, SANBI, CNC Flora, etc.) into SIS (2013);
  - Other non-Red List assessment datasets investigated and integrated where appropriate and resources permit (2016);
- Closer integration and linkages between the Red List website with websites managed by IUCN Red List Partners (e.g., eMonocot at RBG Kew, NatureServe's Explorer and InfoNatura web sites, etc.) (ongoing);
- Closer integration and linkages between the Red List website with data managed by external sources (e.g. Catalogue of Life, Encyclopedia of Life, GBIF, FishBase, World Register of Marine Species, citizen science initiatives, etc) (ongoing);
- A journal-like submission process for submitted assessments implemented in SIS for efficient and transparent tracking of assessments submitted to the IUCN Red List Unit for publication on the Red List website (2014);
- Current and new (2013 and later) IUCN Red List assessment and reassessment accounts are formally and permanently published online on the IUCN Red List website as citable scientific publications with doi-designated downloadable and archived, "gratis" open access documents (2014, or 2013 if economically feasible);
- Historical (<2012) IUCN Red List accounts previously posted online on the IUCN Red List website are converted to citable scientific publications with formally and permanently published doi-designated downloadable, archived and accessible, "gratis" open access documents (2016, or 2013-2014 if economically feasible);
- Knowledge/information shared using experience of other sectors for rapid communication and peer-review, for presentation of species information (e.g., GSP's existing work with threat mapping; Cochran Collaboration) (ongoing).

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

Rationale for Priorities

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).

2013-2016 Targets

- The IUCN Red List of Threatened Species progressively integrated with other IUCN flagship knowledge products, both established and emerging, specifically requiring:
    - Functional integration between the IUCN Red List of Threatened Species, Key Biodiversity Areas (KBAs), and Protected Planet (by 2014) to:
        - allow both potential and actual occurrence of a species to be derived for any given protected area, and all potential and actual occurrences in protected areas to be derived for any given species;
        - indicate which species have triggered identification of KBAs, and potential and actual occurrence of other species (threatened and not threatened) within the identified KBAs;
        - identify which KBAs are totally or partially within the boundaries of legally protected areas and which are not.
    - The Red List of Ecosystems be developed in a way that its classification schemes align to or can be “cross-walked” to the existing IUCN Red List of Threatened Species Habitats, Threats and Conservation Actions classification schemes;
    - The emerging IUCN Human Dependency on Nature Framework and Natural Resource Governance Framework are developed taking into consideration potential and actual linkages and synergies with the Red List of Threatened Species, seeking opportunities to utilise information on use and trade and livelihoods value compiled though the Red List assessment process and stored in the Species Information System.
- Full interoperability between the redesigned Global Invasive Species Database and the IUCN Red List of Threatened species, allowing searches on information stored in both databases (2014).
- Maintaining the “*Guidelines for Appropriate Uses of IUCN Red List Data, incorporating the Guidelines for Reporting on Proportion Threatened and the Guidelines on Scientific Collecting of Threatened Species*”, and specifically:
    - developing guidance on collection and harvest of threatened species as an annex to these, in order to help ensure that Red List data are used appropriately to guide regulation and management decisions (2013);
- The Terms and Conditions of Use for IUCN Red List data, including both non-commercial and commercial uses, maintained and reviewed as necessary (ongoing), and:
    - Systems to monitor use of the IUCN Red List data developed and implemented (2012);
- The IUCN Red List information is adequately and appropriately used in international policy agreements, including IPBES, and this use is acknowledged (2013 and thereafter), specifically:
    - IUCN Red List Index used as a standard indicator for monitoring biodiversity trends for the Aichi Targets, the Multilateral Environmental Agreements generally, the Millennium Development Goals and other sustainability targets and development processes, IPBES, and equivalent sub-global mechanisms,
    - IUCN Red List information is appropriately incorporated into the CBD’s Global Strategy for Plant Conservation, especially Target 2, CITES, Ramsar, CMS, and IWC,

- Jurisdiction of RFMOs relative to distribution of threatened marine species of fishes and invertebrates examined in order to identify gaps and opportunities for action and input by IUCN into the management discussions (2013),
- IUCN Red List information is appropriately used in regional policy agreements, including the EU Habitats Directive, Bern Convention, and ASEAN Convention, and this use is acknowledged;

- Environmental Impact Assessments incorporate IUCN Red List data into planning on a routine basis (by 2016), specifically:
  - International financial institutions (IFC, World Bank, etc) incorporate IUCN Red List data into safeguard policies, especially within the context of the mitigation hierarchy and as reflected through key biodiversity areas because so many such policies operate at site levels.
  - Processes for use of IUCN Red List data by private consulting companies working for corporations and governments to conduct environmental impact assessments and ensure adherence to safeguard policies are strengthened, with consideration given to establishing certification for consulting companies following best practice;
- Businesses incentivized to seek economic advantage by reducing threats to species listed as threatened on the IUCN Red List (by 2016), specifically:
  - Commitments, and mechanisms to verify these, established to cause no increase in extinction risk at a minimum, and ideally net positive impact on biodiversity, from corporations with whom IUCN and Red List partner organizations have existing relationships,
  - Engagement established with certification industries involved in sustainable use of species and their habitats (Forest Stewardship Council, Marine Stewardship Council), to incorporate no negative loss/net positive impact as requirements for certification;
- Integration of the IUCN Red List into national economic development projects and policies sought, highlighting “win-wins” (by 2016), specifically:
  - Incorporation of IUCN Red List data into national policies, e.g., National Biodiversity Strategies and Action Plans, strengthened to support the achievement of Aichi Target 12, amongst others,
  - Better examples and documentation provided of how IUCN Red List data can be used by and are valuable to a range of sectors (e.g., climate change, agricultural management, food security) at the national level,
  - Provide examples for framing the IUCN Red List in the context of urban planning,
  - IUCN Red List data are integrated into assessments of national green accounts or natural capital;
- Role of IBAT consolidated as an expanded partnership platform for facilitating use of Red List data in decision making, and serving as a possible mechanism for securing financing for the IUCN Red List process;
- IUCN Red List data appropriately incorporated into ongoing initiatives, such as Ramsar’s Global Wetland Observation System (2014);
- The extent to which the IUCN Red List is leading to measurable conservation actions and gains is assessed in 2014 (for GBO4), 2015 (for the MDGs), and 2016 (for WCC6), specifically requiring:
  - Conservation actions classification populated comprehensively, tracking progress from “required” to “current”,
  - Conservation actions classification linked to WDPA where these involve safeguarding important sites for species,
  - Conservation actions classification linked to species-specific policy instruments, e.g., Convention on International Trade in Endangered Species (CITES), Convention on Migratory Species (CMS), Ramsar Convention, Regional Fisheries Management Organizations (RFMOs) both analytically and by survey of relevant policy-makers,
  - Conservation actions classification linked to the IUCN Red List Index to measure impacts of conservation action and allow comparison to trends for species lacking such actions.
- Capture and publish conservation investments spatially via the IUCN Red List map viewer tool - done in collaboration with our funding partners and the SSC network to raise the profile of such conservation interventions (2014);

- A 'Wildlife in a Changing World Revisited' publication – with a science to policy focus; highlighting successful applications and recommending future action (i.e., really directed at highlighting practical outcomes for conservation management and policy (2016)

2017-2020 Targets

- RLI included as an indicator for the Sustainable Development Goals, intended to follow on from the new UN Millennium Development Goals (2016 onwards).

Result 8. The IUCN Red List is recognized as a global brand

Rationale for Priorities

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.

2013-2016 Targets

- Regular (ideally dynamic) updates of *The IUCN Red List of Threatened Species*, including a coordinated strategy on public outreach based on the results of each update to maximize on publicity and fund-raising potential (ongoing);
- Exposure of the IUCN Red List increased in professional and international fora, including by:
  - Organizing meetings of the IUCN Red List Committee in tandem with special, open invitation, events or sessions,
  - Organizing symposia at the regular meetings of the Society for Conservation Biology, Ecological Society of America, fisheries societies and other annual meetings,
  - Presentations, side events, and workshops organized at relevant policy events (and see Result 7);
- Visual media (such as an online video) developed to highlight the value of the IUCN Red List (2014);
- A 'national species conservation award' established, to be presented at the IUCN World Conservation Congress, to be presented to the country which has best improved species conservation status (2016);
- A presence in the peer-review academic literature maintained, and this literature widely disseminated and made available, including:
  - A general paper on common misconceptions about the IUCN Red List criteria, categories, and process (2013),
  - Journal publishers contacted to request open access to papers or material that have relevance to application of the IUCN Red List Categories and Criteria or that present results based on Red List data (ongoing),

- Expand efforts to ensure that Red List assessments are included as part of published species descriptions (e.g., as recommended to Journals by the EC-funded BioFresh project) (ongoing);

- Red List website presence enhanced and maintained through:
  - Main Red List website functionality and visual appearance developed and enhanced to improve user search capabilities (including spatial queries), and access to pre-canned queries and information (e.g., country-based reports) (2013 with continuous improvement thereafter),
  - 'Popular' website interface implemented, serving up a subset of Red List content for powerful targeted awareness raising on species, including for each species a photo, map and simple account (prototype by 2012; finalised by 2014);
- Red List communications and outreach expanded through:
  - Conservation success stories based on genuine improvements on the Red List written and disseminated and translated (2013 and ongoing),
  - Social networking strategy (e.g., Facebook page for IUCN Red List; Twitter) developed and implemented (ongoing),
  - *Amazing Species* profiles that broadly represent taxonomic diversity and cultural interest featured at least weekly on the IUCN Red List website and other communication outlets, including social networking sites (ongoing),
  - Red List visual identity expanded in zoos, aquaria, and botanic gardens (ongoing);
  - Friends of the IUCN Red List established (2013);
- Red List data made more readily accessible to the user community through wider availability in other IUCN languages, including:
  - Strategy developed for allowing assessments in other languages (especially French and Spanish) on the Red List website (2013),
  - Tools implemented on the Red List website for "on-the-fly" translation of content into other languages (2013);
- Local support for the IUCN Red List mobilized by ensuring that local traditional knowledge is included in assessments (ongoing);

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

Rationale for Priorities

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.

2013-2016 Targets

- On-line approaches for funding further developed, including seeking opportunities for Google and other advertising/website advertising (2013);
- Recipient GEF countries engaged to include support for National Red List Assessment in their funding requests (ongoing);
- Small Island Developing States as a group approached to seek GEF funding for IUCN Red List assessments (ongoing);
- A lead IUCN Red List institutional sponsor ($5 million a year) secured (to start Barometer of Life partnership) (2013);
- Direct corporate/institutional/personal support expanded (Barometer of Life contributors) (ongoing);

- A Trust Fund for long-term IUCN Red List sustainability established (2016);
- A "Sponsor a Taxon" initiative explored (2014);
- Opportunities created for personal legacy gifts (in will) for fund-raising for IUCN Red List (tax-deductible bequests) (2013).

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

Rationale for Priorities

It is important that the delivery of the IUCN Red List achieves some very specific targets leading up to 2016 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 reports to the SSC Chair and Steering Committee.

2013-2016 Targets

- Strategic advice provided for ensuring the effectiveness and sustainability of the IUCN Red List (ongoing);
- IUCN Red List partnership successfully renewed (2015);
- IUCN Red List partnership strategically grown to include new institutional members (ongoing);
- A strategy to engage appropriate academic and research institutes developed and implemented (2014).

Annex 1. 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.