



Guidelines for the Appropriate Use of IUCN Red List Data in Harvesting of Threatened Species

Version 1.0 (June 2022)

Citation: IUCN. 2022. Guidelines for the Appropriate Use of IUCN Red List Data in Harvesting of Threatened Species (Version 1.0). Annex 4 of the Guidelines for Appropriate Uses of IUCN Red List Data (Version 4.0). Approved by the IUCN Red List Committee in June 2022. Downloadable from:

<https://www.iucnredlist.org/resources/guidelines-for-appropriate-uses-of-red-list-data>.

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Final version 16 May 2022; amended 6 June 2022

Introduction

In 2012, IUCN Resolution WCC-2012-Res-017-EN “Enhancing the usefulness of the IUCN Red List of Threatened Species” requested the development of guidance on collection and harvest of threatened species as an annex to the “Guidelines for Appropriate Uses of IUCN Red List Data”. The requested guidance was in response to the widespread misunderstanding as to whether listing of a species as ‘threatened’ on the Red List should necessarily preclude harvest of a taxon.

IUCN’s “Policy Statement on Sustainable Use of Wild Living Resources” affirms that sustainable use of wildlife can be consistent with, and contribute to, biodiversity conservation (IUCN 2000). This principle applies to all species, but a higher level of precaution and more stringent safeguards are clearly warranted when considering the pros and cons of harvesting threatened species, which have a high to extremely high risk of extinction.

Harvesting of wild resources covers a broad range of practices and types: it can be lethal or non-lethal and can be carried out at different scales (subsistence, traditional indigenous, local, commercial). The likelihood of a harvest being sustainable requires consideration of how biological, ecological, economic, and social factors contribute to the use of a particular species as well as the interplay between them. Harvests takes place within complex and dynamic social-ecological systems, and harvest decisions can have diverse impacts. Some threatened species can support limited rates of harvest and in some cases the harvest has even proven beneficial; in other cases, any level of harvest would not be sustainable and would further contribute towards an increased extinction risk for the species (Marsh *et al.* 2022).

A full understanding of the biological characteristics of a species, such as life history parameters, abundance, population trend, reproductive rate, and its habitat, is essential to determining whether or not a harvest could be sustainable without increasing extinction risk or preventing recovery. However, establishing whether a harvest is sustainable in practice, together with allocation of revenues and benefits, and setting of quotas, also needs to take account of contextual factors including indigenous rights and knowledge, customary law and land tenure, institutional structures of management and governance, resource access and the effectiveness of regulatory systems.

Therefore, in certain cases the ecological conditions may be appropriate to support the sustainable harvest of a species without increasing extinction risk, but the harvest cannot be justified, because the management regime or governance conditions are inadequate to ensure the harvest remains sustainable or that quotas are enforced. Species possessing high commercial value in a context of weak governance, or outside any jurisdiction (such as high seas fisheries) make management of sustainable harvests particularly challenging.

Using the Red List Categories, Criteria, and supporting information

'Threatened' species are defined as those assessed on the IUCN Red List in the three highest categories of threat: **Critically Endangered**, **Endangered**, and **Vulnerable**.

Species are assigned to a category because they meet the thresholds for one or more of five quantified criteria (A–E):

A – Population size reduction. An observed, estimated, inferred, or suspected reduction in population size in the past, ongoing, or in the future. Reduction is based on one or more of five subcriteria. Subcriterion (d) 'actual or potential levels of exploitation' indicates that harvest is currently contributing to increased extinction risk.

B - Restricted geographic range. Small size of extent of occurrence or area of occupancy, plus fragmentation or small number of locations and/or continuing decline.

C - Small and declining population size. Limited number of mature individuals and continuing decline or extreme fluctuations. These species should only be harvested with great caution.

D - Very small or restricted population. Species in this category are inherently vulnerable to stochastic events due to their very small size, though the population may be stable, increasing, or declining slowly. With such small population sizes, decisions on harvest and size of quotas should be highly precautionary.

E - Quantitative analysis. An analysis of extinction probability using e.g., Population Viability Analysis (PVA) or similar modelling approaches. Assessments based on criterion E are rather infrequent, mainly because input data on life history parameters of sufficient accuracy may be lacking. However, these assessments potentially contain the most useful information for estimating a sustainable level of harvest.

Species also need to meet certain subcriteria. The threat category should first guide the level of precaution needed around decisions on harvest, with the criteria providing additional insights. For example, a species listing under criteria A2, A3 or A4 and subcriterion (d) 'actual or potential levels of exploitation' indicates that exploitation is currently contributing to increased extinction risk and/or is predicted to do so in future.

In addition to species listed in the three 'threatened' categories, some species assessed in the **Data Deficient** category, and some species that have not yet been assessed (**Not Evaluated**) may in fact meet the thresholds for threatened status, so a similarly precautionary approach is needed when making decisions on harvest of species in these two categories. Care should also be taken that harvesting a species assessed as **Near Threatened** does not push it into one of the threatened categories.

A Red List assessment also contains a minimum set of supporting information on taxonomy, geographic range, countries of occurrence, population size and trend, habitat and ecology, use and trade, threats, and conservation actions in place and needed. This provides a considerable amount of data on species' biology and ecology, much of which could usefully contribute to decisions on harvest.

Information on the use of species is captured in two distinct ways in the Red List (Marsh *et al.* 2022): (i) in the 'Threats' section under the IUCN threats classification scheme (threat class 5, Biological Resource Use) and (ii) in the 'Use and Trade' section's classification scheme, which

explicitly does not associate use with a threat. That is, the 'threat' information says whether species are negatively affected by use, whereas 'use and trade information' documents the purposes of use regardless of whether it represents a threat. The Red List scoring system estimates the impact of a threat based on timing, scope, and severity of the named threat. This information may be used to create an overall threat impact score to help distinguish major from minor threats. As such, threatened species with, for example, threats 5.1.1 or 5.2.1 or 5.4.1/2 coded, and an associated threat impact score of high, would denote species for which intentional use is already a major contributor to extinction risk and suggests that the use currently taking place is not biologically sustainable.

Limitations of Red List data

1. An assessment may not be up to date, or contain important gaps. Where a Red List assessment is several years old, or is marked as 'needs updating' it is advisable to contact the relevant SSC Specialist Group, Red List Authority, or Red List Partner for further guidance on the current status and whether a reassessment is in progress or planned.
2. A global Red List assessment may encompass wide regional or local variations in status and threats across the species' range. In such cases, the Green Status of Species (GSS) assessment may contain relevant information at sub-global scale.
3. The supporting information presented may be comprehensive at the global level, but it will often not include the fine scale data needed at an individual site or subpopulation level.
4. Demographic data on growth form, life stage, sex/age classes and other life history parameters may not contain the amount of detail needed to inform a decision on use or estimate an appropriate level of harvest.
5. A Red List assessment only rarely contains detailed information on management effectiveness, governance regime, indigenous and local rights, land tenure, benefit sharing, and other factors that are essential to considerations of sustainable harvest. This information should be obtained from other sources.
6. A key consideration is that some information coded in the classification schemes is required for all assessments, some information is recommended, while some is optional or discretionary. For example, the recording of major threats affecting a species is mandatory for threatened species, but recording of use and trade is only recommended, and may thus not be consistently documented across all species on the Red List. Similarly, coding of threat timing is recommended information, whereas severity and scope are discretionary and often not included. Hence, great care is needed when using this information.

Key principles

- A Red List assessment can contribute substantially to decisions on sustainable harvest of a species, but additional information relevant to the species under consideration should be obtained from all other available sources, particularly on specific sites or populations and on governance and management effectiveness.
- Avoid using Red List data as the only source of information and decision-making and supplement it with biological and management information from all relevant sources

including the Green Status of Species, to determine whether a current or proposed harvest is likely to be sustainable, at what level, and which management actions are required.

- Verify the current status of the species when a Red List assessment is outdated or several years old.
- Ensure that harvest of threatened species is sustainable, does not increase the extinction risk, prevent recovery, and/or that the harvest will benefit species or habitat conservation.
- Ensure that harvest levels of threatened species are precautionary, evidence-based, and verifiable.
- Use the Red List Category, Criteria, and supporting information to determine the appropriate level of precaution around any proposed harvest.
- Utilise data at the scale appropriate to the site or population proposed for any harvest.
- Use the lowest boundary where population size is expressed as a range.
- Avoid assuming that species listed as Data Deficient or Not Evaluated are not threatened.
- Avoid linking specific Red List Categories automatically to legal restrictions on harvest, without further consideration of biological and socio-economic factors.

References

IUCN. 2000. *The IUCN Policy Statement on Sustainable Use of Wild Living Resources adopted at the IUCN World Conservation Congress Amman, October 2000*. IUCN, Gland, Switzerland. <https://portals.iucn.org › documents › Rep-2000-054>.

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