



## Biodiversity for Food and Medicine



### ✓ Facts

**CBD Focal Area:** Ecosystem integrity and ecosystem goods and services

**CBD Headline Indicator:** Biodiversity for food and medicine

**Key Indicator Partners:** TRAFFIC

**Data Available:** Global time series for animals used for food and medicine, 1978 onwards and regional/national case studies

**Development Status:** Ready for global use (Red List Index Component)

### ? Reason

Many terrestrial animal and plant species are used by humans for food and medicine. These species make significant contributions to diet and healthcare, particularly in developing countries. An estimated 50,000–70,000 plant species are used in traditional and modern medicine. Many of the wild species used for food and medicine are threatened with extinction, some due to over-exploitation, or different pressures such as habitat loss, disease or a combination of factors. Regardless of the causes, the diminishing availability of these resources threatens the income from wild collection, health and well-being of the people who depend on them.

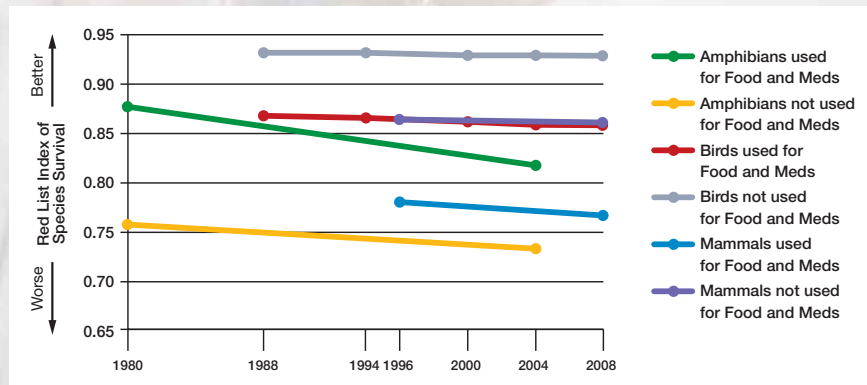
### 📊 Status

The Biodiversity for Food and Medicine Indicator has been developed by TRAFFIC in collaboration with the IUCN-SSC Medicinal Plant Specialist Group with assistance from the IUCN Species Programme and BirdLife International. The indicator provides a measure of change over time in the conservation status of animals used for food and medicine, and a baseline for the conservation status of medicinal plants. Plants harvested for food have not been included; apart from medicinal use, collection of data on harvest for other purposes is not as advanced as for terrestrial animals.

The current food and medicine indicator is based on data from the IUCN Red List of Threatened Species. A Red List Index (RLI) for birds, mammals and amphibians used for food and medicine has been produced. This uses data from repeated assessments of the status of each species for the IUCN Red List, and illustrates overall trends in the extinction risk over time.



## The Indicator



### Red List Indices for utilized and non utilized species.

Red List Indices showing the proportion of species expected to remain extant in the near future without additional conservation action for all species, species used for food and/or medicine or not used for these purposes for: amphibians, birds and mammals.

Source: RLIs produced using IUCN Red List data with assistance from IUCN Species Programme and BirdLife International.

### How to interpret the indicator:

The IUCN Red List Index (RLI) measures trends in the overall extinction risk of species-groups, as an indicator of trends in the status of biodiversity. Decreasing RLI values (a downwards sloping line) means the expected rate of extinctions (i.e. biodiversity loss) is increasing, i.e. that the rate of biodiversity loss is increasing. A horizontal graph line (i.e. unchanging RLI values) means that the expected rate of biodiversity loss is increasing. An upward trend in the graph line (i.e. increasing RLI values) means that there is a decrease in expected future rate of species extinctions, i.e. a reduction in the rate of biodiversity loss.



## Current Storyline

*'Many of the wild species used for food and medicine are threatened with extinction, some due to over-exploitation, some to different pressures e.g. habitat loss, or a combination of factors. Of the 9,956 known extant bird species, 14% are thought to be used for food and or medicinal purposes. Of all bird species 12% are classified as threatened but of those used for food and medicinal purposes 23% are threatened. Similarly mammal species used for food and medicines (22% of all known mammal species) are more threatened on average than those not utilised in this way. In contrast to the birds and mammals, amphibians used for food and medicine appear overall to be less threatened than amphibians not used for these purposes. However, the conservation status of these species is declining more rapidly than that of amphibian species not used for food and medicine.'*

*Just 3% of the world's well-documented medicinal flora has been evaluated for global conservation status. The proportion of medicinal plants flora considered to be threatened appears to have remained relatively stable (ca 40% to 45%) between 1997 and 2008. This stability however may be the artefact of a number of variables. The conservation status of medicinal plants is alarming if this pattern is maintained by assessment of a larger and more representative sample of medicinal plant species.'*



## National Use

The Red List based indicator focuses on the global status of species used for food and medicines. National RLIs for utilized species can be calculated either by disaggregating the global indices, or by repeatedly assessing extinction risk at the national scale. Many countries have compiled national red lists (generally for all vertebrate species) which form the basis of the latter approach (see [www.nationalredlist.org](http://www.nationalredlist.org)), but so far few have done this twice or more using consistent methods. As they increasingly do so, however, many more national RLIs will become available which can be disaggregated for utilized and non-utilized species.

Information on producing national RLIs can be found in the 2010 BIP publication, *IUCN Red List Index – Guidance for National and Regional Use*, available from the 2010 BIP website ([www.twentyten.net/guidancedocumentsforationaluse](http://www.twentyten.net/guidancedocumentsforationaluse)).

For more information about producing regional and national Biodiversity for food and medicine indicators contact Thomasina Oldfield at TRAFFIC ([Thomasina.oldfield@traffic.org](mailto:Thomasina.oldfield@traffic.org)).

**TRAFFIC**  
the wildlife trade monitoring network

### Photo credits:

Snake wine ©Proggie; Seoul medicine market ©US Army Korea - IMCOM; Dried seahorses ©Mark Belokopytov; Caged reptiles ©Dan Bennett; Chinese medicine ©Clairegren.