

Biodiversity, ecosystems, processes, functions, services, benefits, threats and responses...

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1. What do we know?

Past studies of fogging canopies and harvesting species showed a large species richness in tropical trees. Extrapolating these findings to the global level, numbers from 30.000 tropical arthropod species (Erwin's estimate) and 2.75 - 10 mio species (Frode Ødegaard, 2000) have been estimated. But large efforts concerning taxonomy still have to be made in order to at least be able to identify the most abundant species found.

2. What is lost?

It is very difficult to measure extinction rates due to the lack of knowledge. Estimation of global extinction of plant and animal species range from 6-12 mio. Recent efforts have tried to take into account interactions between species and thus indicate a former underestimation of extinction rates.

Extinction rates can be derived based on:

- Estimates from species abundance
- Data on population dynamics ("living planet-index" by WWF)
- Changes in species distribution
- Expert knowledge, e.g. IUCN-Red List

3. What difference does it make?

Reasons to conserve biodiversity can be for example the function of particular species or ecosystem services. But in reality more emblematic species (e.g. birds, butterflies, "fluffy" mammals) are being better protected.

4. What is causing extinction

A large set of factors can cause extinction: climate change, pollution, invasive species and land use change (e.g. conversion of forest to agricultural land)

5. What is being done?

Some efforts on individual species are being done, as well as protection of special habitats. But these areas generally differ from the share of area the ecosystem has globally. Political approaches like the Convention on Biological Diversity, Birds and Habitats Directives, Biodiversity Action Plans or the 2010 targets on biodiversity also focus on species conservation. Among the biggest challenges are the lack of data and the often difficult communication between different stakeholders like the local population.

6. Discussion

Formulating arguments of conservation:

Martin S. pointed out that conserving rare species is not always the best argument since they may only have a small function within an ecosystem. Also the trend of more and more common species moving towards the edge of extinction should be of more relevance in the debate. Especially for parasites (e.g. lice), arguments for conservation are hard to find (Wolfgang C.). Additionally, our own ethical concepts like intrinsic values might not hold true for other cultures, as Diana R. added.

Lisa F. added the potential advantage of habitat conservation to overcome the problem of finding arguments for each species separately.

Coping with uncertainty:

Carlos T. argued that uncertainty could be understood as a "friend" in the communication process. Nevertheless Allan W. sees the risk it can also pose since it reduces credibility of

science. Also, as Caspar V. could experience from a project in Borneo, politicians often hide behind uncertainty to justify their inaction.

Catherine J. pointed to the risk of waiting too long to reduce uncertainty when it might already be too late for changes. Therefore Allan W. argues that efforts have to be made in both reducing uncertainty and at the same time carrying out conservation since we already know enough to take action.

Barriers for conservation actions:

Imam B. sees a lack of communication between politicians and local problems in Indonesia as a major problem. Yet Supriyas S. experience from India showed that actions are often carried out bottom-up from local village people, without communication from above. Many of these locals still have knowledge on local biodiversity and its functions.

On the other hand, in industrial societies a strong separation of human daily life from nature can be observed, as Brooke W. pointed out, which leads to a loss of the intrinsic value of nature.

Another strong barrier was seen by Martin S. in the political approach to define targets within a very long-term horizon, which is out of their own reach in their lifetime, reducing their responsibility for commitment.

Outlook:

Considering recent data, Allan W. argues that 2010 goals are not reachable any more and that thus new targets have to be defined.