

Extinction Risk

Objective 1: Plant diversity is well understood, documented and recognized **I**

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Target 2: An assessment of the conservation status of all known plant species, as far as possible, to guide conservation action



Wild plant species around the world are under increasing threat of extinction. The primary causes of loss of plant species are:

- **Habitat destruction** Urban development, intensive agriculture and tree logging all destroy and degrade the natural habitats of plants. It is estimated that habitat destruction from human activity is the primary cause of risk for 83 per cent of endangered plant species;
- **Invasive alien species** Aliens are not science fiction, but a nature conservation fact. An 'alien' is any species that is moved by humans, animals or other natural forces to an area outside its native range. 'Invasive' species are those that spread quickly to become very common and dominant in the new habitat, posing a great threat to native species;

- **Pollution** Pollution is a big problem for plants, particularly the misuse of herbicides and pesticides, which can directly kill wild plants and their pollinators;
- **Climate change** This is likely to result in changes in the distribution of species, flowering times etc. The impacts will be most pronounced in mountainous and island ecosystems, where plants have 'nowhere to go' as environmental conditions change.

Once a plant species is named and recorded, we need to assess its conservation status, that is, its abundance or scarcity. To do this, we need to know the species location, distribution and the number of plants or populations of the plant. Assessments may be desk based, using computer records from previous surveys or may involve additional data collection by

fieldwork. This process of assessing rarity is known as 'Red Listing': species which are rare appear on Red Lists. A global Red List is maintained by the International Union for the Conservation of Nature (IUCN). Species in the Red Lists are categorized as: Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened, Data Deficient and Least Concern.



Case study: *Malus niedzwetzkyana*

Malus niedzwetzkyana is a wild species of apple which is found in Central Asia and is believed to be the primary ancestor of the domesticated apple. This species potentially possesses characteristics that might be useful in future apple improvement programmes and is therefore considered to be a globally important genetic resource. Although it is distributed over a wide area, (Afghanistan, Kazakhstan, Kyrgyzstan and Uzbekistan as well as parts of China) the wild populations of this species are declining at a rapid rate. A staggering 90% of its forest habitat has been lost in the last 50 years and the species is classified as Endangered. Current threats include over-harvesting of fruits and loss and degradation of habitat due to agricultural expansion. The Global Trees Campaign is working to conserve the Niedzwetsky apple. A nursery has been established and field surveys have taken place to map its distribution in Kyrgyzstan.

Find out more: www.globaltrees.org



Red List categorization of *Malus niedzwetzkyana*

No Evaluated	Data Deficient	Least Concern	Near Threatened	Vulnerable	Endangered	Critically Endangered	Extinct in the Wild	Extinct
NE	DD	LC	NT	VU	EN	CR	EW	EX

Where are we now?

So far, less than 4 per cent of the known plant species (around 13,000 species) have been fully assessed for their conservation status for the IUCN global Red List, although many more have been assessed nationally or regionally. Indeed, an analysis carried out in 2010 revealed that 96 countries have national plant red lists. Threat assessments have also been carried out for particular groups of species. In the case of trees, BGCI, in association

with the Global Trees Campaign is supporting the Red Listing of tree species, with all species of magnolias, oaks, maples and rhododendrons having been recently assessed.

A global analysis of a representative sample of the world's plants, conducted in 2010 by the Royal Botanic Gardens, Kew, together with the Natural History Museum, London and IUCN, has revealed that one in five of the world's plant species are threatened with extinction. The study, 'Sampled Red List Index for Plants', is an important baseline for plant conservation and gives an indication of the true extent of the threat to the world's estimated 380,000 plant species.

Find out more:

- www.iucnredlist.org
- www.globaltrees.org
- www.kew.org
- www.arkive.org



"The preservation of biodiversity is not just a job for governments... every individual has a role to play." Kofi Annan, former UN Secretary General