

Interjection: Biodiversity and education for sustainable development

Besides climate change, the loss of biodiversity is one of the largest problems for which human-kind is responsible. Biodiversity encompasses the diversity of species and habitats, genetic diversity, and all their interrelationships. The total number of species on Earth is unknown. It may lie between eight and 100 million; not even two million species have been described scientifically. Diversity is concentrated above all in hot spots in the tropical rain forests. Every day we lose a number of species by cutting down and burning down unimaginably large areas of rain forest.

Consumer behavior and mass extinction

Yet this is by no means as distant from us as it sounds: our consumer behavior is also to blame. Soy for feeding our barn-raised, factory-farmed cattle is cultivated where the rain forest used to grow, and in Indonesia, forests are cut down to establish palm oil plantations. The marine ecosystems are under pressure as well: pollution (oil, plastic), warming, overfishing and acidification (because of the increasing concentration of CO₂ in the atmosphere) are endangering the diversity of life in the oceans, most of which is also still unidentified. Overall, it is foreseeable that we are on the path to the sixth great mass extinction in the history of the Earth. The losses of diversity, however, also destroy or destabilize the major ecosystems, which also play important roles in driving the carbon and water cycles.

Ecosystem services

The Millennium Ecosystem Assessment, published in 2005, broadly introduced the concept of ecosystem services into the debate about sustainability. Humans' quality of life is directly dependent on the quality of ecosystem services. Security, access to indispensable resources, health, social relationships, and individual freedom suffer massively if ecosystem services are impaired. The concept of ecosystem services explicitly does not negate nature's intrinsic value. It also does not aim to allocate a purely economic value to every component of nature. Instead, this concept is intended to elucidate that human life and economic activity are dependent upon nature and make use of nature. Yet markets do not account for nature's services or accord them value appropriately. That is why they are granted far too little significance in political decision-making.

Humans and nature

Humans and nature are by no means mutually exclusive, on the contrary: there is an enormous abundance of species in structurally rich cultural landscapes in the temperate zones, and this is even true of cities. Yet numerous species are now on the Red List because of overfertilization and ongoing losses of structures. Globally speaking, climate change is considered an additional threat to biodiversity, and the CO₂ emissions from burning rain forests contribute massively to climate change. Recognizing these interrelated developments and designing options for action to counter them is an important part of education for sustainable development. That is why it is of great importance to generate an emotional connection to the fascinating interrelationships in nature as a foundation for teaching basic knowledge. (Text: Hannes Petrischak)