



Quick guide to the Aichi Biodiversity Targets Pollution reduced

By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

Nearly all Parties indicated in their fourth national reports that pollution was posing a threat to biodiversity. In particular nutrient loading, primarily of nitrogen and phosphorus, is a major and increasing cause of biodiversity loss and ecosystem dysfunction, especially in wetland, coastal and dryland areas. As nitrogen and phosphorus are often limiting nutrients in many ecosystems when they are present in excessive quantities they can result in rapid plant growth which can alter ecosystem composition and function. Humans have already more than doubled the amount of “reactive nitrogen” in the biosphere, and business-as-usual trends would suggest a further increase of the same magnitude by 2050.

Explanation of the Target

This target specifically addresses **pollution, including from excess nutrients** - Pollution refers to chemical contaminants that are introduced to the environment resulting in instability or harm. Pollution can take numerous forms as a variety of chemical compounds can cause environmental damage depending on their properties and concentrations. The target specifically highlights excess nutrients. Excess nutrients, such as nitrogen and phosphorus, by promoting plant and algae growth, can have particularly negative effects on biodiversity and ecosystem functioning especially in aquatic environments where they can result in eutrophication and the creation of “dead zones” with severe losses of valuable ecosystem services. Common causes of excessive nutrients are sewage and agricultural runoff.

The target also specifies that pollution should be brought to levels that are **not detrimental to ecosystem function and biodiversity** – Therefore the target does not require that all pollutants be eliminated but does require that they are reduced to a point where they do not have a negative effect on biodiversity. The point at which pollution can be considered detrimental depends on the type of pollutant considered as well as the environment it is affecting.

Implications for setting national targets

This target is consistent with, and complementary to, work under the Rotterdam and Stockholm Conventions and the target established in the Johannesburg Plan of Implementation to achieve, by 2020, a situation where chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment. As such national targets adopted in support of this Aichi Biodiversity Target have the potential to create synergies between the Convention on Biological Diversity and other international processes.

Guiding questions for setting national targets

- **What ecosystems are being affected by pollution, including excess nutrients?** Which pollutants are they being affected by? How are they affecting biodiversity and ecosystem functioning?
- **What are the main sources of pollution in the country?** What are the point sources of pollution? What are the diffuse sources?
- **What pollution control measures are already in place in the country?** How effective have these been? How could their effectiveness be improved?
- **What are the main channels or opportunities for bringing pollution, including from excess nutrients, to levels that are not detrimental to biodiversity?** What type of actions could be used? What programmes or initiatives could be further built on?

What additional resources (financial, human and technical) will be required to reach the national target that is set? How can additional funds be raised? What are possible funding sources?



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- **What are the opportunities and constraints for reducing pollution?** How may these justify a higher or lower national target compared to the global target?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

Actions and milestones

This target is relevant to several programmes of work but, in particular, to those dealing with inland water, agricultural, and marine and coastal biodiversity and the Convention's work on impact assessment. A number of actions could be taken to implement this target. As a starting point countries may wish to identify the types of pollution they wish to address. It may be easiest to start by identifying and addressing point sources of pollution but ultimately non-point or diffuse sources of pollution will need to be addressed as well. The development of national water quality guidelines could help to limit pollution and excess nutrients from entering freshwater and marine ecosystems. With regards to excess nutrients, the more efficient use of fertilizers could help to reduce pollution while at the same time improving the efficiency of agricultural processes. The better control of sources of pollution, including efficiency in fertilizer use and the better management of animal wastes, coupled with the use of wetlands as natural filtration plants where appropriate, can be used to bring nutrient concentrations to levels that are not detrimental to ecosystem functioning, while also allowing for increased fertilizer use in areas where it is necessary to meet soil fertility and food security needs.

Possible indicators

- Impact of pollution on extinction risk trends
- Trend in emission to the environment of pollutants relevant for biodiversity
- Trend in levels of contaminants in wildlife
- Trends in incidence of hypoxic zones and algal blooms
- Trends in nitrogen footprint of consumption activities
- Trends in ozone levels in natural ecosystems
- Trends in pollution deposition rate
- Trends in proportion of wastewater discharged after treatment
- Trends in sediment transfer rates
- Trends in water quality in aquatic ecosystems

Resources

- Programme of work on Inland Waters Biodiversity - www.cbd.int/waters/
- Programme of work on Agricultural Biodiversity - www.cbd.int/agro/
- Programme of work on Marine and Coastal Biodiversity - www.cbd.int/marine/
- International Nitrogen Initiative - <http://initrogen.org/>