Biodiversity

Concept

The impact on biodiversity was measured using the Shannon (Shannon-Wiener) Diversity Index. The Shannon Diveristy Index (H') takes into account the number of species present within a given area or habitat - i.e. the richness, and their relative abundance with that area or habitat, the eveness.

The index is used to express the measure of biodiversity of a given area. In research projects where biodiversity monitoring aims to quantify the enhancements in biodiversity in the area of a project demonstrator, it is necessary to calculate biodiversity indices before and after the project intervention.

Key data from monitoring

Increasing biodiversity was one of the key challenges in all of the GrowGreen's frontrunner cities. Thanks to the introduction of a huge number of vegetation (trees, shrubs and herbaceous plants of many different species) during the implementation of the project, as well as protection of large number of mature trees, all project demonstration areas noted significant biodiversity uplift. In Wroclaw alone, the project led to the introduction of 112 trees of 27 species, 6862 shrubs of 56 species and 19 414 herbaceous plants of 75 species (including 902 climbing plants of 10 species) in the project areas (with additional wildflower meadows consisting of herbaceous plants of 58 species in 4 demonstration areas).

It is important to note that the selection of plant species introduced in the project areas was based on native species, cultivars which are characterized by high resistance to urban conditions as well as adaptation to habitat conditions.

West Gorton, Manchester: Wildflowers in bloom

Olbin, Wroclaw: before and after the implementation of the project

Lessons learned

Biodiveristy scores can be affected by greenspace maintenance. In areas of poor upkeep, biodiversity scores may worsen overtime. It is recommended that in a period of particular vulnerability (i.e. after being planted), new vegetation should be provided with maintenance in a selected period of time, in order to enable the vegetation to take root and develop properly. In future long-term research, it will be very important to observe how the introduced plant species cope without additional maintenance and which of them are most suitable in selected areas (with regard to local climate etc.).