

Biodiversity in railway environment

How to measure, preserve and enhance threatened species on railways.

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Railway stations, railway lines and other anthropogenic environments are important biotopes for numerous species. Today we know that many threatened species live and reproduce in railway environments. Knowledge about ecology and distribution of these species is a prerequisite to promote biological diversity in the greenest mode of travelling: the railway. We have performed a survey of biodiversity in railway environments in south and mid Sweden. 180 railway stations were visited and analyzed for beetles, wasps, day-flying butterflies, hemipterans and vascular plants. The survey also included 8 parts of railway lines. In total, more than 2 000 species from these groups were found during 2008-2009. Among these, 102 species were red listed in Sweden. Two of the red listed species (sand lizard and large blue butterfly) were also listed in the EC Habitats Directive. A system with indicators was used to detect spots of high biological diversity. These spots were suggested for to become part of certain measures in order to develop the biological diversity. The railway environment is characterized by disturbance and is often exposed to drought and sun. This biotope has become an important environment for many species originated from agricultural landscape. As the agricultural landscape changes, the railway and other infrastructures become more important for these species. Also, when new railways are built new infrastructure biotopes will be created. If the biological perspective is considered from the beginning, these biotopes will become valuable for biodiversity. During the inventory we found that 15 existing action plans for threatened species were represented in the investigated railway environment. The system of indicators used in this survey was shown to be appropriate to use on small but not large railway stations. The result of this inventory points at the great variety of species that occur in railway environment.