

Traffic noise impact on biodiversity - a method for assessment

*Jan Olof Helldin; j-o.helldin@cbm.slu.se Per Collinder;
per.collinder@ekologigruppen.se Åsa Karlberg; asa.karlberg@vv.se*

*Jan Olof Helldin Swedish Biodiversity Centre, SLU Box 7007, 750 07
Uppsala, Sweden*

=====

Key words: Traffic noise, Biodiversity, Impact assessment

Previous research has pointed out the negative impact of traffic noise on biodiversity adjacent to major infrastructure corridors. In particular, the effects of road traffic on birdlife are well documented, but effects on other taxa and of railway traffic are also described in the literature. In a similar manner, traffic noise decreases the value of human recreation in natural environments, such as urban green areas as well as more remote nature reserves. Noise emissions from roads and railroads can hence be seen as a considerable problem for nature conservation and outdoor recreation.

Despite these strong scientific evidence, the impact of traffic noise in natural environments are rarely assessed, and even more rarely treated, in Swedish road or railroad planning. We develop a method for assessing the noise impact on areas of special importance for nature conservation. The method is based on effect levels presented in literature, available GIS data on protected areas, bird observation data, road data and a simplified model for noise distribution. The method can be used to identify conflict points along an infrastructure network or a corridor, to direct mitigation measures, and to monitor efficiency of mitigation.

We present the results of the method applied on the road network in a pilot area in mid-Sweden, and outline how the method will be further developed to include railway noise and the impact on outdoor recreation.