

13th Meeting of the Advisory Committee

Cluj, Romania, 23 – 24 August 2008

IWG on Light Pollution -

Draft assessment of critical points.

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Introduction

As outlined in the first sessions of the IWG on Light Pollution, convened at the 12th meeting in Budapest, light pollution is an accepted issue for wildlife species, including a large number of migrating species. Light pollution might influence species through habitat disturbance, changing of behaviour, and in some cases on survival if intervening with crucial steps in the life cycles of species. In particular for bats, at least three main areas can be identified having a possible influence on populations:

- (In)direct effects on maternity colonies, hibernation sites and roosts
- Effects on commuting e.g. barrier function of lit roads and fragmentation of the night landscape.
- Interaction with feeding activity, including prey distribution and intra-bat species competition;

A critical literature review allows us to identify following critical points, and possible measures to take.

Critical points

Along with the important issue of an overall loss of open space, e.g. for the development of living space for people, industrial developments or other, there is significant change of the night landscape and an increase of direct and diffuse light sources, influencing a wide series. More than noise, light has been proven to have a negative effect of the activity of several bat species. Only few species (common pipistrelle, *Nyctalus* species) seem to take advantage of the aggregation of insects to the UV-component of light sources.

In view other aspects, e.g. the increase of a feeling of safety by the inhabitants of towns and countryside, there numbers of actions that realistically can be taken in order to minimize or decrease wildlife disturbance are limited. This does not exclude that, as a general feature, the preservation of the night time landscape should remain a general target. A further fragmentation by light of the night landscape seems, however, unavoidable.

For bats, as for other species with a high protection status, efforts should in first place be targeted to the possible disturbance of crucial life cycle events. This implies avoidance of

impact of structural changes, including light pollution in and around maternity roosts and hibernation sites, and on the flight routes leading to them.

As for possible effects intra-species competition, more data are needed in order to quantify effects and a possible negative impact.

Possible measures

For all species of high protection status, red list or high community interest, major efforts should be taken in order to avoid all structural changes including those effects of light pollution on crucial habitats for feeding or for the different life cycle stages.

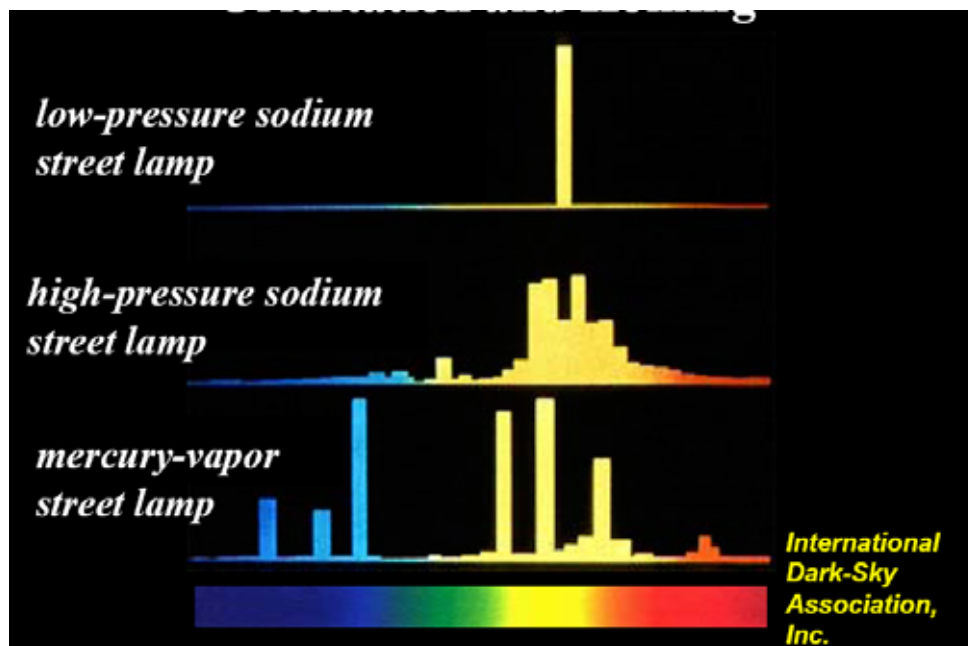
For bats, this implies that no major changes should be made in and around maternity roosts and hibernation sites, including flight routes, without a proper and binding impact assessment. Further research should aim to identify the perimeter at which effects may take place and the assessment should be conducted.

At least all publicly financed projects should use a possible impact assessment on endangered species as a cut-off criteria for (co)financement.

A series of measures can already be taken in order to avoid direct and diffuse light pollution:

- blocking of all sort of “fun” light in the night landscape, e.g. the permanent use of sky beamers for commercial reasons or only for the sake of it.
- even when negative effects on intra-species competition are not debatable, a gradual replacement of lamps with high UV-content by e.g. low pressure sodium street lamps will reduce significantly the attraction of it for insects, hence for bats.
- for existing and new development projects, a better outdoor planning with the use of e.g. shielded lighting can reduce the spreading of light pollution to a minimum. This factor should be taken along in the approval of all assessment related projects.
- the placing of any kind of large spotlights should be standard evaluated in terms of ecological impact, in particular in and around canals, ponds and rivers and other water bodies, or any habitat of known importance to wildlife.

Addendum



www.darksky.org/ida/

IDA advocates shielded lighting and better outdoor lighting planning

