Commission for Dark Skies

Protect the Night

www.britastro.org/dark-skies

Artificial Light at Night – what is it doing to biodiversity?

***Really* badly aimed LED lights**

In recent decades the world's natural nights have been transformed by artificial lighting.

Wasted light from poorly directed and overbright lights taints the night sky and threatens biodiversity and human health.

Apart from effects such as contributing to climate change and resource depletion, poor quality lighting has potential impacts on ecology and health. Blue-rich light seems to be particularly damaging and the introduction of LEDs in recent years is of concern. In November 2009 the Royal Commission on Environmental Pollution (RCEP) produced its report *Artificial Light in the Environment* , drawing attention to a range of negative impacts & calling for action.

Ecological Effects

Lights at night have a detrimental effect on nocturnal wildlife that has evolved to take advantage of the night (e.g. bats, moths, glow-worms). Most of the world's species are nocturnal. Sleep patterns of daytime creatures (such as birds – and humans!) are affected, altering their daytime behaviours. Fish, reptiles, plants… the list of victims is long. The current biodiversity crash has many causes. Light pollution is one of them.

Human Health Effects

The American Medical Association (AMA) draws attention to health effects from artificial light and has declared light pollution a health hazard. Glare is a problem, particularly for older eyes. The hormone melatonin supports our immune system and has a role in regulating our circadian rhythm. It is shown to have impact on reducing production of some cancers. The production of melatonin is suppressed by light at night, even if we are asleep.

The Way Forward

Further investigation of effects & risk of light at night is needed, as urged by the RCEP. Light at night needs to be used sparingly, as with any other potential pollutant…. Where and when needed, with the minimum intensity for the lighting task and with appropriate wavelengths that are not damaging to living things.