

Ask the Specialist?

My neighbors go all out for the Holidays. The lighting used to illuminate our neighborhood can probably be seen from outer space. I heard somewhere that the nighttime lighting in our cities is affecting wildlife. Is that true?

The use of nighttime lights to illuminate our neighborhoods is a common practice and often required for human health and security. However, it is also important realizing that our own health and well-being and wildlife can be affected by nighttime lighting.

The International Dark-Sky Association (IDA), coined the term light pollution to define excessive nighttime or non-natural lighting. The term has been applied to any adverse effect of artificial light, including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste. In addition to wasting energy, light pollution can affect astronomers and scientists, wildlife migrations and activity, and been linked to human health.

Migrating birds that use moon and stars, can be attracted by light beams (high-rises, towers, light houses, oil platforms). Lighting can disorient animals that are active at night resulting in more accidents. Nighttime predators have an advantage by seeing over a greater area, and their prey must seek darkness and spend more time hiding. Lighting changes the predator/prey relationship. The prey has less time to use for normal activities.

A recent study published in Human-Wildlife Interactions, sheds light on the effects of Holiday non-natural light in the environment during normal periods of darkness. Wildlife students at Texas A&M UniversityKingsville reported that holiday lights used to decorate the college campus were a seasonal source of light pollution that contributed to higher predation rate for native eastern fox squirrels. Eastern fox squirrels exhibited diurnal behaviors throughout the year but extended their foraging behavior nearly 4 hours after sunset with the addition of holiday lights.

Feral cats and native owls exhibited diurnal and nocturnal behaviors but conducted the majority of their hunting during crepuscular hours. The students documented that monthly squirrel mortality increased 7-fold with the addition of holiday lights, possibly due to the extension of foraging time by squirrels. Although the seasonal lighting was intended to be festive for humans, it had negative consequences for eastern fox squirrels.

The students recommended educating the public concerning the issue of light pollution on wildlife species is needed. Other studies suggest most of the public appears to be unaware that bright lights can negatively alter wildlife behaviors. They further recommended reducing light intensity by either using less outdoor lights or perhaps using colored lights rather than clear white bulbs may lessen the negative effect on foraging behavior of squirrels.

There are some simple things we all do to reduce light pollution and lessen the impact on our environment and wildlife.

Some cities have adopted a "Lights Out" program in which exterior lighting as well as interior lights in tall buildings are dimmed or turned off during periods of bird migration. Bare bulbs or upward pointing lights are replaced with hooded fixtures that only shine downward.

If lights can't be turned off, then use flat lens, and reduce the number of lights and intensity. Both the height of the pole and the intensity of the lamp should be adjusted to only direct light where needed.

Here are some actions you can take at home:

Turn off lights not needed – turn off seasonal holiday light when you go to bed

Use wavelengths that do not affect wildlife or attract insects (yellow)

Keep lights away from wildlife habitat

It should be realized that decisions have to be made between cost, safety, health, and environmental well-being. Whatever the result, our total inter-relationship with our environment must be considered.