Dark skies at night, star gazers delight: Best practices

By Annamarie Hatcher

In ancient cultures, unencumbered vision of the changing night skies was necessary to navigate and to determine optimal planting, hunting and harvesting times. In the modern world of GPS and centralized weather prediction we often place a low value on being able to see the patterns in the night sky. However, interfering with a clear night vision of the skies impacts many aspects of the ecosystem. The growth patterns of many plants, their ability to resist disease and physiologically prepare for winter are affected by the colour and duration of lighting. Artificial lighting can modify behaviour of animals in many ways. For example, nocturnal mammals adapt their behaviour to avoid predators, including limiting their foraging area which limits the amount that they can eat. Illuminated roads can separate animals from their normal foraging grounds. It is well known that light attracts many insects and fish. This concentration increases predation rate in the artificially illuminated land and waterways.

Photo downloaded from this source.

If there is no current need for artificial lighting, it should be removed. If artificial illumination is considered to be necessary, there are ways to lessen the environmental impact. The International Dark Sky Association recommends the Royal Astronomical Society's Guidelines for Outdoor Lighting. There are several guidelines that landowners should take note of:

- Light pollution is best reduced at the source by decreasing the light emitted.
- White lights should be avoided entirely. White light has high scattering properties in fog which is common in the Biosphere. The blue light components increase the impact of glare up to 10X that of amber light and undermine the night vision of many animals. Amber lights or a filter (Roscolux Deep Straw #15) can be used to lessen these impacts. Illumination described as "warm", "warm white", or Dark Sky Friendly may not be more environmentally-friendly than white light.
- Reflective components can sometimes lessen the need for artificial illumination.
- Where vehicle and pedestrian traffic is low, reflective signage can be used.
- Pathways should use white or light coloured gravel to reflect ambient light
- Passive fluorescent markers may be used to mark pathways
- Focused lights should be used to prevent light scattering beyond the immediate area
- low wattage railing-mounted lighting should be used such that the light is directed down
- motion detectors can be used to turn on lights along pathways and timing circuits can turn them off

For more information on light pollution and dark sky preserves, click here. Also on YouTube or have a look at the international Starlight Initiative map here.


Outdoor Lighting Can Be
Dark Sky Friendly
• Light what you need
• When you need it
• No brighter than necessary
• Fully shielded to point downward
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