

WHAT IS LIGHT POLLUTION?

Light Pollution is defined by the International Dark Sky Association as the inappropriate or excessive use of artificial light which can have serious environmental consequences for humans, wildlife, and our climate. It's caused by the excessive and inefficient use of artificial light at night to light up buildings, commercial properties, parking lots, excessively bright street lights or advertisements.

Light Pollution Components:

- 💡 **Glare:** excessive brightening that causes visual discomfort
- 💡 **Skyglow:** brightening of the night sky over inhabited areas
- 💡 **Light trespass:** light falling where it is not intended or needed
- 💡 **Clutter:** bright, confusing, and excessive grouping of light sources

LIGHTING ORDINANCE BASICS

The principle purpose of most lighting regulations is to limit light pollution, promote energy conservation, regulate outdoor lighting fixtures, and create a unifying, community-wide approach to outdoor lighting.

An effective ordinance should include:

- Clear Definition
- Lighting Standards
- Exemptions
- Procedures
- Compliance Methods
- Enforcement
- Actions in case of violation

WHY IS NIGHT SKY CONSERVATION IMPORTANT?

ECONOMIC BENEFITS



Dark night skies can **increase property values** and promote **astro-tourism** which increases average travel spendings per day from \$40.63 for day trips to over \$290 for over night stays.

SOCIAL BENEFITS



Artificial light at night has multiple **negative human health impacts**: blue light at night disrupts a human's circadian rhythm and suppresses Melatonin secretion. It also can result in severe sleeping disorder, heart disease, or obesity. ¹

Bright light does not increase safety! Rather, the placement, color, and shielding of light needs to be done wisely to ensure safe perception of space.

ENVIRONMENTAL BENEFITS



Preserving naturally dark environments ensure the **conservation of natural habitat** for urban and rural wildlife.

Proper night sky friendly lighting **lowers CO₂ emission** and **lowers energy costs**. ^{2,3}

"...The bottom line for planners and elected officials is what's good for dark skies also saves money, by making sure light is used most efficiently—including the most effective ways to improve public safety."

Jon Barentine, IDA Director of Public Policy

AN OVERVIEW LIGHTING FOR NIGHT SKIES

"When we talk individually, we can discuss specific lighting needs and what can be done to get there. Without individuals and associations working together, the last remaining dark areas on the planet could well disappear without anyone noticing."

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Mary Bedingfieldsmith

WHAT IS DARK SKY FRIENDLY LIGHTING?

Following lighting best practices and implementing dark sky friendly lighting is easy. The Illuminating Engineer Society (IES) and International Dark Sky Association (IDA) have collaboratively designed five principles for responsible outdoor lighting⁵:



ALL LIGHTS SHOULD HAVE A CLEAR PURPOSE

Determine if outdoor lighting is necessary and useful. If they illuminate more than anticipated, add shielding or remove them completely.

LIGHTS SHOULD BE DIRECTED ONLY WHERE THEY ARE NEEDED

To avoid light trespass and glare, use shieldings around the light source and aim the light downward toward the needed area.



LIGHTS SHOULD BE NO BRIGHTER THAN NECESSARY

Use the lowest light level required but still be useful. Be mindful of surface conditions as some surfaces may reflect more light than anticipated.

LIGHTS SHOULD BE USED ONLY WHEN THEY ARE USEFUL

Use lighting controls like motion sensors, timers, or dimmers, to ensure that light is available when it is needed, but dimmed or turned off when they are not.



USE WARMER COLOR LIGHTS WHERE POSSIBLE

Limit the amount of short-wavelength lights to the least amount needed. Instead, use long-wavelength amber-colored lights stay below 3,000K where possible.

1: <https://www.health.harvard.edu/staying-healthy/blue-light-has-a-dark-side>
2: <https://www.darksky.org/light-pollution/wildlife/>
3: <https://www.darksky.org/light-pollution/energy-waste/>
4: https://www.huffpost.com/entry/city-light-pollution-night-sky-star-protection_n_5dc9d1fee4b00927b2381233
5: <https://idsw.darksky.org/activities/dark-sky-friendly-home/>



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