

Under One Sky

Hawthorn Woods, Illinois
An International Dark Sky
Community



NASA/GSFC/Craig Mayhew and Robert Simmon

Blinded by the light: how light pollution affects our environment

What is light pollution?

Daily light and dark cycles create a natural rhythm that is important for many organisms. Some species are only active at night, some migrate by night, most set their internal clocks to the changing length of days and seasons.

Sources of pollution

Light pollution disrupts these natural cycles. **Artificial light at night** comes from human sources such as transportation (cars & planes), electric lighting in buildings, houses, and signs.

DISPLAYS & ADVERTISEMENTS

Sky glow is when the night sky is brightened by diffuse light. Sky glow from artificial light in cities outshines natural sources like the moon.

Not all artificial light is the same.

Human light sources differ in intensity, brightness, spectral composition, and timing (street lights, seasonal lights)—all of which change how much different species are affected.

BUILDINGS

LED LIGHT

STREET LIGHTS

AMPHIBIANS

BIRDS

FISH

INVERTEBRATES

MAMMALS

REPTILES

PLANTS

HUMANS

Effects across the tree of life

Not only nocturnal animals are affected.

By perceiving light pollution as daylight, the physiology and behavior of many organisms can change.

Biological consequences

Light pollution influences many levels.

For example, it alters:

MOLECULAR RESPONSES & GENE EXPRESSION

Biological clock expression timing

HORMONES & PHYSIOLOGY

Hormone production, metabolism, cardiovascular systems

BEHAVIOR

Sleep/wake time, resource discovery, reproduction, communication

POPULATIONS

Density, gene flow, home range size, intraspecific competition

COMMUNITIES

Predator-prey interactions, food web processes

ECOSYSTEM FUNCTION

Species interaction networks, trophic cascades, nutrient cycling



Trespassing:
This is not fair
to your neighbors

It is better to
direct your lights away
from your neighbors













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I DIDN'T KNOW THAT! Light Pollution

Light pollution affects our ability to see the night sky

One third of humanity cannot see the Milky Way due to light pollution.



Migratory birds and nocturnal animals depend on the dark.

Artificial light can disrupt reproduction and feeding habits. It can draw animals and insects towards the light causing collisions, disrupting migration, and making them easy prey.



Light pollution is completely reversible!

Follow these tips to help dim your lights:

1
Only light:
if needed,
when needed, &
where needed.

2
Color
matters. Use
warm-white
or amber lights.

3
Keep it
low &
shielded.



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