

IDA PROGRAMS

International Dark Sky Places (IDSP) – This conservation program supports legislation and community outreach that will protect wildlife and preserve exceptional dark sky sites for future generations.

Parks and Protected Areas (PPA) – IDA works with Parks and Protected areas to assess lighting and install dark sky friendly fixtures that will save energy, reduce light pollution and protect the environment.

Model Lighting Ordinance (MLO) – IDA and the Illuminating Engineering Society (IES) have developed a template for environmentally responsible outdoor lighting in North America to help communities develop lighting ordinances that reduce sky glow, glare, light trespass, and energy costs.

SkyMonitor™ Program – IDA has developed the world's first global system to measure sky brightness. It will provide communities and researchers with the ability to identify areas where light pollution is getting worse, and those that are improving.

Fixture Seal of Approval – IDA works with lighting manufacturers to promote fully shielded, efficient lighting fixtures that direct light where it is needed.

Research – IDA's network of astronomers, environmental and health experts, and lighting professionals allows us to compile the most up-to-date information on outdoor lighting. IDA uses this data for white papers, position statements, and informational briefings.

IDA Chapters – IDA volunteers form local groups to control light pollution in their area. We have 58 chapters in 16 countries! It's easy to find a group near you.

Education and Outreach – Visit the IDA website for free resources including brochures, posters, videos, PowerPoint presentations, and student/teacher activities.



Cover photo (shown in full here) of Big Bend National Park in Big Bend Region, Texas, was taken by IDA Board Member Tyler Nordgren in February 2012

LIGHT POLLUTION TERMINOLOGY

- **Glare** – excessive brightness that causes visual discomfort
- **Urban sky glow** – the brightening of the night sky over inhabited areas
- **Light trespass** – light falling where it is not intended, wanted, or needed
- **Clutter** – bright, confusing, and excessive groupings of light sources

WHAT YOU CAN DO

- Install lighting only when and where it is needed and always direct it toward the ground
- Use fully shielded fixtures at home and encourage their use in the workplace
- Use energy saving features such as timers, dimmers, and motion sensors in all outdoor lighting
- Promote effective outdoor lighting ordinances in your community
- Educate your friends and neighbors about the economic, environmental, and security benefits of good outdoor lighting
- Visit the IDA Web site at www.darksky.org for free information and resources
- Join IDA and make a difference. IDA members enjoy benefits including discounts on merchandise, exclusive material in the Members Only section of the website, and a subscription to our award-winning publication, *Nightscape*. Call, email, or join online today.

**For more information, visit darksky.org
Together we can make a difference!**



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WHAT IS LIGHT POLLUTION?

Light pollution is excessive or inappropriate outdoor lighting. Common forms of light pollution include glare, sky glow, light trespass, and light clutter.

International Dark-Sky Association

“To preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting”



Before and during the East Coast blackout, 2003

THE PROBLEM OF LIGHT POLLUTION

Urban dwellers everywhere are losing the ability to see planets and stars in the night sky. The spectacular view of the cosmos that has inspired science and art throughout history is disappearing. The glow of uncontrolled outdoor lighting has hidden the stars and changed our perception of the night. Light pollution wastes energy, harms ecosystems, increases greenhouse gasses, threatens astronomical research, and affects human health.

Better lighting is the solution! The problems from light pollution can be solved by utilizing efficient, modestly bright outdoor lighting fixtures that are directed toward the ground and shielded to control glare.

HARM TO WILDLIFE

Bad lighting can affect the foraging, mating, and migratory behaviors of nocturnal wildlife. For example, newly hatched marine turtles are often unable to find the safety of the sea because they become disoriented by inappropriate lighting. Tens of thousands of migrating birds die each year in collisions with buildings left illuminated at night.



F.L.A.P. (Fatal Light Awareness Program) does its annual laying out of the birds. Birds confused by urban lighting become bewildered and trapped in the lighting of skyscrapers.



This mosaic satellite composite image illustrates light pollution—the wasteful light we allow to wander into space
NASA/Goddard Space Flight Center, Scientific Visualization Studio



Overly bright light can mask intruders.



With the light shielded, the intruder is seen easily.

LIGHTING FOR SAFETY

Bright light does not increase safety. Ironically, too much lighting can threaten security by compromising vision with glare and casting harsh shadows where criminals can hide. The key to being safe is having uniform lighting that allows the eye to adjust to naturally dark conditions for maximum visibility.

HARM TO HUMAN HEALTH

Most life on Earth adheres to a circadian rhythm, a sleep-wake pattern dictated by the 24-hour cycle of light and dark. Exposure to excessive artificial light at night can disrupt the circadian rhythm and deregulate biological functions like eating and sleeping. Prolonged disruption of the circadian rhythm has been linked to sleep disorders, obesity, depression, diabetes, and an increase in the growth of cancer cells, specifically breast cancer.

ENERGY WASTE

In 2002, approximately 30 percent of all outdoor lighting was wasted due to poor design. Unshielded fixtures that allow light to escape upward or provide more light than is required are major contributors to this inefficiency. In the U.S. alone, wasted light costs \$2.2 billion annually and requires the energy equivalent to 12.9 million barrels of oil or 3.6 million tons of coal, producing 1.7 million tons of carbon dioxide.



Light pollution atop California's Mt. Wilson is a serious problem for astronomers at this famous observatory.

The International Dark Sky Association is a non-profit 501(c)(3) organization providing information, education, and research on light pollution. IDA shares knowledge on how to preserve dark skies and reduce light pollution on local, national, and international levels.