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Why Can't We See the Stars Like We Used To?



Used to be, the stars of the Milky Way Galaxy shone so brightly they cast a shadow over earth. They're still shining, but we can't see them. Glare from excessive earthly light - light pollution - makes the Milky Way almost invisible tonight or any other. It doesn't have to be this way...

Light Pollution - Three Simple Causes.....

Ever point a flashlight upwards into the night? You're blinded to everything around you. Countless outdoor lights create the same effect - on a much larger scale - every night.

There are three simple causes of light pollution:

- ◆ Unshielded outdoor lights
- ◆ Lights that point upwards or outwards rather than at the ground
- ◆ Lights that shine brighter than necessary

All of these create excessive sky-glow, light-trespass and glare, conditions that obscure the natural night-time beauty of the Highlands and can be annoying and even dangerous; light pollution wastes money and energy too.

... And a Few Easy Solutions!

Fortunately, light pollution is easy to eliminate. A few simple steps solve the problem:

- ◆ Shield naked bulbs - Inexpensive shields that attach to naked floodlights and eliminate outward glare are the easiest and most effective way to reduce light pollution. Hudson Highlands Land Trust has a limited supply of FREE floodlight shields. Call the Land Trust at 845-424-3358, or stop by the office at the intersection of Route 9D and Snake Hill Road in Garrison. Light shields are available from local electrical contractors and retailers.
- ◆ Point outdoor lights at the ground. Direct lights where you need them - and away from where they produce unnecessary glare and sky-glow. A good rule of thumb is this: from a reasonable distance, you should be able to see the lighted ground, but not the light bulb itself. If you can see the bulb, adjust the light.
- ◆ Install shielded light fixtures. Many manufacturers now make attractive fixtures designed to reduce light spillage. They come in a variety of styles and are available through local electrical contractors, electrical supply companies or retailers. A selection can be seen at www.darksky.org.
- ◆ Use bulbs with appropriate wattage. A fixture eight feet off the ground needs only a 45 watt bulb. Ten feet, 65 watts; 12 feet, 90 watts. Energy - and money - saving bulbs are readily available. Compact fluorescent bulbs use 1/4 the electricity of comparable incandescent bulbs.
- ◆ Use motion sensors. Inexpensive, easy-to-install sensors turn on outside lights when people are around and turn them off when they're not needed. They reduce light pollution and save you money, too!



The outdoor light at the Hudson Highlands Land Trust office in Garrison illustrates the effectiveness of light shields. At left, the unshielded light produces excessive spillage and glare. The shielded light at right illuminates the front of the building but the light itself cannot be seen from Route 9D. The Land Trust has a supply of light shields available free – Call 845-424-3358!

Easy Ways to Reduce Light Pollution

Hudson Highlands Land Trust is working with local governments, businesses and other institutions to implement better light management practices. You can help at your house.

Install inexpensive shields on naked outdoor floodlight bulbs or use shielded fixtures.

Be a good neighbor – point outdoor lights downward. From your property line, you should be able to see the lighted ground, but not the light bulb itself.

Use proper wattage. These wattages are adequate at the corresponding fixture height:

| <u>Fixture Height</u> | <u>Watts</u> |
|-----------------------|--------------|
| 8 feet | 45 |
| 10 feet | 65 |
| 12 feet | 90 |
| 15 feet | 100 |

Save money and energy with high-efficiency bulbs and motion sensors. Replacing two 100-watt incandescent bulbs, used dusk to dawn, with shielded compact fluorescents saves almost \$100/year. It's estimated we waste \$4.2 billion annually in energy costs from excessive lighting.

Preserve the environment too. Every kilowatt of energy used generates: 1.3 lbs of carbon dioxide, 2 grams sulfur dioxide, and 1.6 grams nitric oxide.

Resources

Information, materials and assistance are available from these local and online resources as well as the Hudson Highlands Land Trust, www.hhlt.org, (845-424-3358).

Local Electrical Contractors

- ❑ Burke Electrical Inc. - Steve Burke - (845/265-5033)
- ❑ C. A. Ricci Electrical Contracting - Tony Ricci -(845/265-4700)
- ❑ Pidala Electric, Inc. - Andrew Pidala - (845/265-9521)

Local Retailers/Suppliers

- ❑ C & E Paint Supply, Inc. - 158 Main Street, Cold Spring (845/265-3126)
- ❑ Electra Supply Co. - Dark sky accessories - Poughkeepsie (845/452-9000)
- ❑ Post Road Hardware - 2741 Route 9, Cold Spring (845/265-9652)

Online Resources/Suppliers

- ❑ American Electric Lighting (www.americanelectric/lighting.com)
- ❑ GlareBusters (www.glarebusters.com)
- ❑ Holophane (www.holophane.com)
- ❑ Outdoor Lighting Associates (www.outdoorltg.com)
- ❑ Prolighting - www.prolighting.com

More Information

- Hudson Highlands Land Trust - www.hhlt.org
- International Dark Skies Assoc. (IDA) - www.darksky.org
- Dark Sky Society - www.darkskysociety.org
- Energy Federation Inc. - www.energyfederation.org
- Selene NY - www.selene-ny.org/lightcost.asp
- Urban Wildlands - www.urbanwildlands.org/ecan1book.html
- Architectural Area Lighting - www.aal.net
- Illuminating Engineering Society of North America (IESNA) - www.iesna.org