



INTERNATIONAL DARK-SKY ASSOCIATION

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# Conserving Dark Skies and Natural Nightscapes in Virginia



Photo by Doug Puffenbarger of Bluegrass, Virginia  
The Milky Way over Highland County

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## NATURAL NIGHTSCAPES AND DARK SKIES

*“Our fantastic civilization has fallen out of touch with many aspects of nature and with none more completely than with night . . . With lights and ever more lights, we drive the holiness and beauty of night back to the forests and the sea.”*

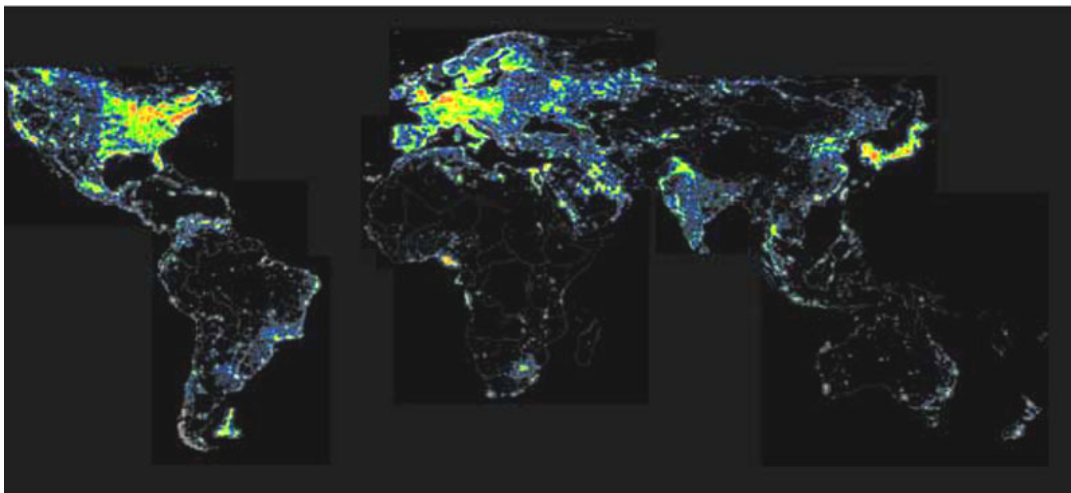
*Henry Beston, The Outermost House, 1928*

### Importance of dark nights and unpolluted night skies

When paging through the cabin journals in many of our state parks, it is not unusual to come across visitors’ delighted, even ecstatic, references to a rare or first ever encounter with a dark, star-filled night sky. Until recently, coming face to face with the universe under an unpolluted sky has been part of the shared human experience, but the implacable spread and intensification of light pollution threatens starry skies with extinction.

The National Park Service defines light pollution as “the introduction of artificial light, either directly or indirectly, into the natural environment.” Commonly recognized forms of light pollution are sky glow, glare, light trespass, and light clutter.

Within a matter of decades we have vanquished the stars, dousing them in a polluted sky that reflects our overuse of artificial light. In most of the developed world residents never fully engage their dark-adapted night vision and most cannot see the Milky Way. We have mistakenly equated the view from space of our brightly lit planet as a sign of human progress instead of recognizing it as evidence of poorly designed outdoor lighting.



<http://www.lightpollution.it/worldatlas/pages/fig1.htm>

## History of night sky conservation

“And when you switch on the Night,” said Dark,  
“Why, you switch on the crickets!  
And you switch on the frogs!  
And you switch on the stars!”

Ray Bradbury, *Switch on the Night*

“An unpolluted night sky that allows the enjoyment and contemplation of the firmament should be considered an inalienable right equivalent to all other socio-cultural and environmental rights. Hence the progressive degradation of the night sky must be regarded as a fundamental loss.”

**2007 Declaration in Defense of the Night Sky and the Right to Starlight; UNESCO, UNWTO, IAU, etc.**

In 1988 the nonprofit International Dark-Sky Association (IDA) was formed to advance the cause of protecting night skies, motivated primarily by the need to protect the integrity of astronomical observatories. Since then the “dark skies movement” has expanded to encompass issues of environmental degradation, human health and safety, energy use and climate change, and community aesthetics. IDA now has more than sixty volunteer-staffed chapters worldwide including twenty representing five continents.

The problem of light pollution and the cause of night sky conservation increasingly have entered the popular culture with the 2011 release of the award-winning documentary *The City Dark* and the 2013 publishing of Paul Bogard’s 2003 book, *The End of Night, Searching for Natural Darkness in an Age of Artificial Light* along with extensive coverage in generalist online, print, radio, and television media. Around the world governments from the national to municipal levels are enacting legislation and standards to curb the increase in light pollution—sometimes motivated by greenhouse gas reduction and energy savings goals— at a time when technological advances in solid-state lighting are posing both new threats and new solutions.

### Night Sky Conservation in Virginia

The International Dark Sky Places program is the centerpiece of night sky conservation efforts. The award-winning program features five designations requiring a rigorous application process that must demonstrate dedicated community support for night sky protection. As of November 2017, IDA recognizes worldwide 16 Dark Sky Communities (11 in the U.S.), 53 parks (37 U.S.), 11 reserves (none in the U.S.), three sanctuaries (one U.S.), and four Developments of Distinction (all in the U.S.).

In June 2015 Staunton River State Park in Scottsburg became the first IDA-certified Dark Sky Park in Virginia. This initiative began as a partnership between the Chapel Hill Astronomical and Observational Society (CHAOS) and park management. Adam Layman, park manager, became a champion for IDA Dark Sky Park certification and forged an effective collaboration of the park, local officials, and CHAOS to achieve and maintain the certification. Layman now serves on the County of Halifax Tourism Department Board of Directors, reflecting the prominence of the Park's International Dark Sky Place status as a community asset. Number of attendees at premier Star Parties have exceeded 200 visitors and in 2017 AstroCamp, a STEM-based summer camp for youth, purchased a nearby property because of its proximity to an IDA certified Dark Sky Park.

James River State Park in Gladstone became the second state park to apply to become an IDA certified Dark Sky Park in 2018. A decision on the Park's application is pending.

Regional nonprofit Valley Conservation Council sponsored a well-received "Dark Sky Summit" in the Allegheny Highlands in October 2015. Participation in the summit confirmed strong support for night sky conservation and "astro tourism" in the western part of the commonwealth.

Other locally based efforts to conserve and promote night skies as a community asset include advocacy and outreach by the [Rappahannock League for Environmental Protection](#) (RLEP) based in Sperryville. RLEP has worked with the Rappahannock Electric Co-op, in consultation with the Fairfax-based Smart Outdoor Lighting Alliance, to convert their standard pole lighting to fixtures that meet IDA's Dark Sky Friendly lighting standards. They are also exploring the possibility of pursuing Dark Sky Park certification for a local park. RLEP's exemplary outreach, which includes supporting the local public school system's interest in converting to approved Dark Sky Friendly lighting, sets a standard for effective community engagement.

Just over the mountains from Rappahannock County on the eastern slopes of the Blue Ridge in Fauquier County, Sky Meadows State Park staff and volunteers are developing their application for their Dark Sky Park certification.

## **Strategies for local governments**

- 1) Encourage parks and other natural areas to incorporate night-time programming, star watches, awareness resources, and citizen science projects
- 2) Identify community partners such as conservation nonprofits, astronomy clubs, local members of IDA, and science educators to form a working group to assess night sky opportunities and needs

- 3) Engage with local tourism staff and board to explore potential for “astrotourism”
- 4) Reevaluate and improve existing outdoor lighting ordinance or initiate the development of an outdoor lighting ordinance. Address deficiencies in enforcement. Consult with Virginia IDA and the Smart Outdoor Lighting Alliance.



Every October the Bull Run Mountain Conservancy in Broad Run hosts two weekends of their popular Halloween Safari. The forest comes to life on a guided night hike where costumed characters emerge along the way and perform natural history skits that introduce parents and children to animals and plants native to the Bull Run Mountains, highlighting the nocturnal behavior and life cycle

Bull Run Mountain Conservancy, Halloween Safari 2015

## Recommendations

In order to regard natural nightscapes and dark skies as the natural resource they are and ensure that the wonder of a starry sky is within reach for all Virginians, communities, nonprofits, and agencies should foster appreciation for our nocturnal environment through the following:

- Development of a state parks Nightscapes program modeled on the National Park Service program.
- Pursuit of Certified Dark Sky Park designations (state or local) in regions prioritized based on quality of night skies or accessibility and Dark Sky Community designations particularly in more developed or populous areas.
- Increase in nighttime interpretative programming at state and local parks, nature centers, and preserves. Integrate “ecology of the night” and light pollution’s impact on habitat and wildlife into existing educational programming. Create a network or forum for organizations to share ideas and resources.
- Encouragement of citizen science involvement and contribution to sky quality data through Globe at Night (<https://www.globeatnight.org/>).

## RESOURCES

The International Dark –Sky Association (IDA): <http://darksky.org/>

Virginia chapter of IDA: <http://www.darkvirginiasky.org/> (Contact: [lauragreenleaf@verizon.net](mailto:lauragreenleaf@verizon.net))

IDA Dark Sky Place program, guidelines for Dark Sky Parks:  
[http://www.darksky.org/wp-content/uploads/bsk-pdf-manager/IDSP\\_Guidelines\\_Oct2015\\_23.pdf](http://www.darksky.org/wp-content/uploads/bsk-pdf-manager/IDSP_Guidelines_Oct2015_23.pdf)

Staunton River State Park, IDA Dark Sky Places program:  
<http://www.darksky.org/idsp/parks/stauntonriver/>

Smart Outdoor Lighting Alliance (based in Fairfax): <http://volt.org/>

National Park Service, Night Skies Division: <https://www.nps.gov/subjects/night skies/index.htm>

World Atlas of Artificial Night Sky Brightness  
<http://www.lightpollution.it/worldatlas/pages/fig1.htm>

## RECOMMENDED READING

Bogard, Paul. (2013). *The End of Night: Searching for Natural Darkness in an Age of Artificial Light*.

International Dark-Sky Association. (2012) *Fighting Light Pollution: Smart Lighting Solutions for Individuals and Communities*.

Longcore, Travis and Rich, Catherine. (2006) *Ecological Consequences of Artificial Night Lighting*.