

Light Pollution

What can we do to help reduce it?

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Artificial Light at Night

- **Glare:** light that overloads the human visual system by shining directly in a person's eyes and preventing the human eye from discerning a range of brightness levels, hiding part of the scene from view
- **Light Trespass:** intrusion of light through a window or onto a property i.e. a street light or neighbor's light shining through the window(s) impacting the ability to enjoy one's property or interfering with sleep and circadian rhythm
- **Overlighting:** wasteful use of energy, increased green house gas emissions and costs
- **Sky Glow:** illumination of the sky over cities or towns, caused by stray light from thousands of fixtures in a town

Excessive Artificial Light at Night
Is
Light Pollution

Implications of Light Pollution

- **Destroys critical wildlife habitat:** scientific evidence suggests light pollution has negative and deadly effects on many creatures, including amphibians, birds, mammals, insects and plants
- **Disrupts diurnal cycles in plants:** may affect crop yields
- **Wastes energy and money**
- **Harms human health:** increases risks for obesity, depression, sleep disorders, diabetes, cancer and more
- **Decreases safety and security:** no clear scientific evidence that increased outdoor lighting deters crimes in fact the glare from bright unshielded lights actually decreases safety because it shines into our eyes and constricts our pupils
- **Robs us of our night sky heritage:** prevents residents of TBM from seeing the wonders of the night sky such as the Milky Way and the Northern Lights
- **Inhibits scientific research:** interferes with ability to observe fainter objects in the night sky

Responsible Outdoor Lighting Principles

1. **Useful:** use lights only when/where needed
2. **Targeted:** shield and aim the light so it shines downward
3. **Low-level:** lights should be no brighter than necessary to save money and reduce glare
4. **Controlled:** lights should only be used when needed, use timers and motion sensors
5. **Warm-coloured:** warm-colored light cause less skyglow; use amber-toned lights when possible

DarkSky International

- The International Dark Sky Places program certifies communities, parks and protected areas that preserve and protect dark sites from the harmful effects of light pollution
- Globally there are 230 Dark Sky Places in 22 Countries
- Designation as a Dark Sky Community provides measurable economic benefits – Flagstaff and Sedona Arizona have built thriving astro-tourism sectors; Bon Accord (Canada's first Dark Sky Community) has seen increased visitation, community pride and national recognition

TBM Official Plan and The Future Story

- Page 214 of the 216 TBM Official Plan 2016, Section D8.7 refers to Outdoor Lighting
- Town's Integrated Community Sustainability Plan
 - Bold Action 6 - develop a biodiversity strategy
 - Bold Action 7 - expand production of sustainable local food
 - Bold Action 9 - implement green development standards
 - Bold Action 11 - establish a residential green retrofit program
 - Bold Action 15 – diversity, equity and inclusion strategy

UNESCO Biosphere Reserve

- Dark skies strongly complement the objectives of biosphere reserves
- Enhance ecological resilience, support conservation and boost visitor engagement- core criteria for achieving and maintaining recognition as a Biosphere Reserve

Grey County's Sustainable Tourism Vision

- *The Beaver Valley provides a world-class experience for visitors and locals alike, all of whom value the spectacular geography of the region and respect the need to create a long-term legacy of economic and social vibrance and environmental sustainability.*
- Taking measures to decrease light pollution and improve enjoyment of the night sky including star gazing, ability to see the milky way and the northern lights while protecting flora and fauna fits in this strategy. It will attract tourists and have an economic value to TBM
- Identified a significant gap about Beaver Valley having a specific brand place to visit. Thought – differentiate ourselves and identify Beaver Valley as a Dark Sky Community

Royal Astronomical Society Of Canada

- National Light Pollution Abatement Program
- Dark Sky Sites Program
- Canadian Guidelines for Outdoor Lighting

RASC Toronto Centre

- Operates E.C. Carr Astronomical Observatory
- Provided comments to Thornbury Council on streetlighting changes to Highway 26 and Bruce Street
- Developed “Best Practices for Effective Lighting” for City of Toronto 2017

Support for Dark Sky Community

- Climate Action Now Network – Sally Leppard
- Beaver Valley Destination Stewardship
- Escarpment Corridor Alliance –Jarvis Strong
- The Tourism Company –Mike Robbins
- Annette Sandberg – Board Member of Niagara Biosphere Network

Conclusion- Why Dark Sky Community?

- Meets Biosphere Reserve vision to benefit people as well as the environment
- Fits in TBM's 2016 Official Plan regarding Outdoor Lighting and Future Story
- Meets Grey County's sustainable tourism vision
- Improves safety, security and health of residents
- Demonstrate Town's leadership in environmental protection
- Assists in creating competitive differentiation as a tourism destination
-potential to increase tourism dollars
- Community engagement and education

Conclusion Continued

- Marketing and branding advantage- help brand the Town as a leader in sustainability, nature-based wellness and experiential tourism
- Partnership and funding opportunities- sponsorships, grants, partnerships with tourism organizations and universities