



UNDER DARK SKIES

WRITTEN BY SANDRA J. HOWE

The night sky spreads out above you like a black velvet blanket studded with stars. Meteors flash random streaks of light, evoking whispers of “There!” and gasps of wonder. Heads swivel to catch views of shooting stars in all directions. Family and friends lounge in your backyard in a dark-sky-friendly community. It is mid-August and the Perseid meteor shower is on display. At its peak, 60 to 100 meteors per hour can be seen on a clear night. It is a spectacular event to share with loved ones annually.

Sparsely-populated Manitoulin Island provides for spectacular night starscapes. This was taken at Mississagi Lighthouse on the western tip of the island. PHOTO BY MIKE DAVIS.

STAR GAZING is also a viewing event that is at risk from modern, urban lifestyles. A recent study indicates that two-thirds of the world's population can no longer see the Milky Way. Light pollution impacts the health of humans, wildlife, plants, and ecosystems. Ineffective lighting wastes billions of dollars each year. Homes, businesses, and municipalities all have a role to play in preserving and enhancing dark skies. By taking action together, we can harvest extensive economic and quality of life benefits.

The Niagara Escarpment meanders through Canada's most heavily populated region. Many southern Ontario residents have limited or no views of the natural night sky, and may have health issues related to excess artificial light. Light pollution from neighbouring properties can be a source of conflict in communities too. But what can we do? Lots! Enter dark-sky-friendly lighting and public education.

In 2004, the Municipality of Northern Bruce Peninsula declared itself a "Dark Sky Community" and committed to retrofit/replace all municipal lighting to enhance dark skies. This initiative brought together a range of individuals and interest groups working toward common goals. The Bruce Peninsula Biosphere Association accessed funding to educate and assist homeowners to upgrade outdoor lighting, and developed a 52-page catalogue of dark-sky-approved lighting fixtures available locally. Their Bayside Astronomy Program provides thousands of summer visitors with wonderful night sky tours. Their schedule of events are at bpba.ca.

Dark Sky Preserves

In 2009, the Royal Astronomical Society of Canada recognized Bruce



▲ Mike Warkentin of Stokes Bay is an amateur astronomer and a volunteer with Bayside Astronomy Program on Bruce Peninsula. Here he sets up his telescope on the beach for an evening program at Lion's Head. PHOTO BY SANDRA J. HOWE.

Peninsula National Park and Fathom Five National Marine Park jointly as a Dark Sky Preserve. In all of Canada, there are fewer than 20 such preserves. Others along the Niagara Escarpment include Gordon's Park on Manitoulin Island and Bluewater Outdoor Education Centre at Wiarton. Gordon's Park hosts Stargazing

Manitoulin and many other dark sky events annually. The Bluewater Centre is home to the ES Fox Observatory and the Bluewater Astronomical Society, offering public stargazing and amateur astronomy programs.

Beyond the joys of astronomy, dark skies are critical for environmental

health. Wildlife, especially nocturnal species, are negatively impacted as light pollution disrupts foraging and movement patterns. Birds often travel at night using the stars to navigate; artificial light disorients them. Over 100 million migrating birds die annually in North America due to excessive urban lighting.





▲ This sign hangs on Lion's Head Marina office. PHOTO BY SANDRA J. HOWE.

More municipalities along the Niagara Escarpment are reviewing dark-sky issues for conservation and cost-saving reasons.

Humans and many other species depend on natural light-dark cycles to regulate biological processes such as sleep and reproduction; minimizing night light aids health. Plants are also impacted by excess lighting.

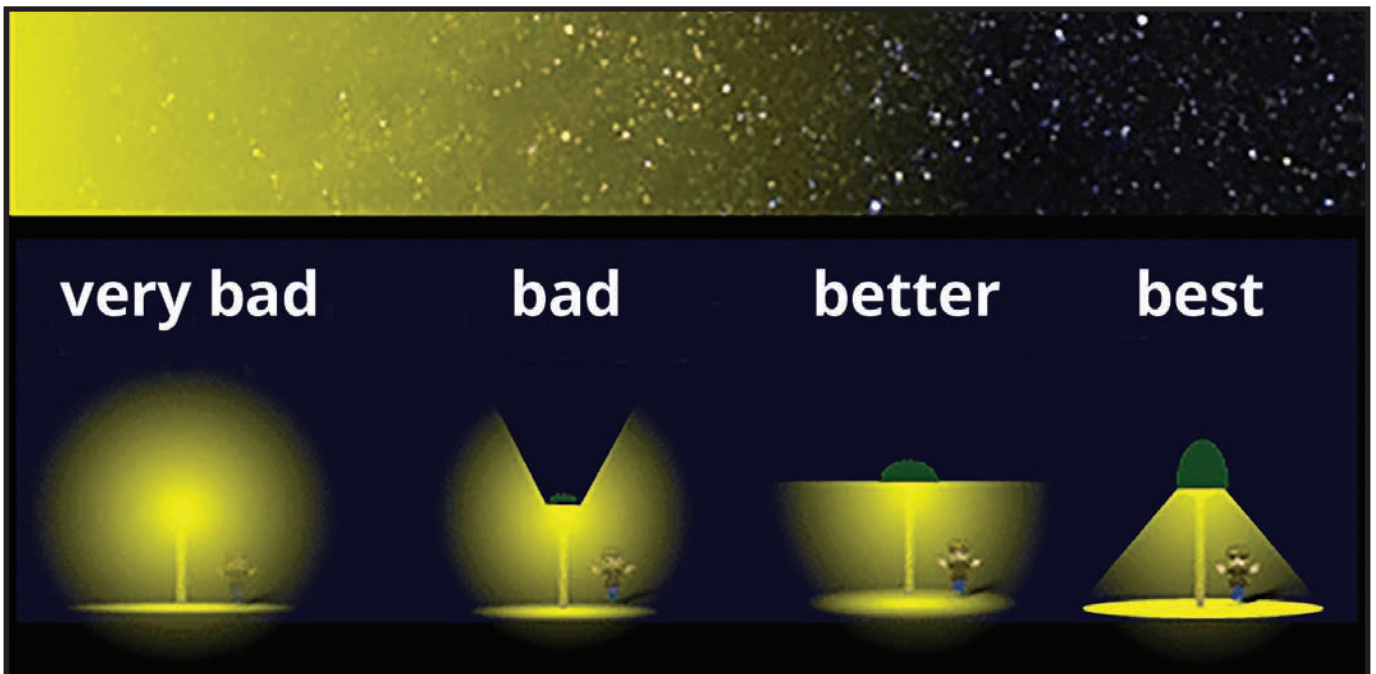
Small Steps

Economics is also a significant factor in dark sky conversations. While homeowners, businesses and municipalities may face a capital outlay in upgrading old-fashioned light fixtures and bulbs, maintenance and operating costs will be reduced. Outdoor lighting that shines directly upwards wastes an estimated \$1.74 billion per year across North America.

The International Dark Sky Association approves light fixtures suitable for protecting dark skies and conserving

energy. Good lights have full shielding which directs light downward where it is needed. Use LED and lower wattage bulbs, especially those with the warmer colours yellow, red or orange. Reduce unnecessary light fixtures and lower bulb wattage on your property. Timers and motion sensors can focus light when and where it is most helpful. Draw blinds and curtains at night to keep light and warmth inside your home. These small steps can make a difference.

More municipalities along the Niagara Escarpment are reviewing dark-sky issues for conservation and cost-saving reasons. South Bruce Peninsula, including Wiarton, Hepworth and Sauble, has improved its street lighting. Owen Sound and Meaford are in the process. In July, 2015, West Grey mayor Kevin



▲ Your choice of outdoor light fixtures can help provide dark skies while maintaining security. DIAGRAM PROVIDED.



▲ Preventing upward light spill from fixtures keeps illumination low and helps prevent light pollution. ILLUSTRATION PROVIDED.

Eccles promised his council would consider a community request for a dark-skies policy in that municipality.

West Grey plays host each year to StarFest, Canada's largest stargazing festival. Sponsored by the North York Astronomical Society, it is a camping weekend recognized as one of the world's top 10 star parties. Hundreds of people attend, bringing their tourist dollars to this rural area between Mount Forest and Ayton.

Living under star-filled dark skies is part of our natural and cultural heritage.

We bask in the beauty of summer nights, contemplate our place in the universe, and are enriched by sharing awe-inspiring skies. Dark skies support human and ecosystem health, protecting valuable resources. To preserve and enhance our night sky makes great sense both environmentally and economically. We can all play a role in reducing light pollution. **NEV**

Sandra J. Howe's last feature for Niagara Escarpment Views was "Touring Winter Falls Near Owen Sound," Winter 2015-16.

How to Minimize Light Pollution

1. Minimize the lighting on your property, both in number of fixtures and their wattage.
2. Direct lighting only where it is needed.
3. Avoid up-lighting architectural features or trees.
4. Use timers or motion sensors to turn off lights when they are not needed.
5. Draw blinds and curtains at night.
6. Use bulbs with a warm colour (yellow, red or orange) to reduce the impact on the natural environment.

From "Dark Skies Over the Niagara Escarpment," a brochure of the Niagara Escarpment Commission.