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*The Bras d'Or Lake Biosphere is located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq.*

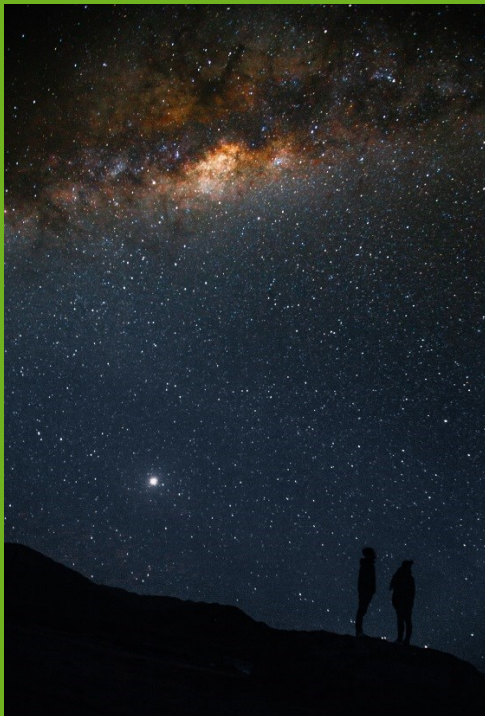


Photo downloaded from this [source](#).

## Dark skies at night, star gazers delight: Best practices *by Annamarie Hatcher*

In ancient cultures, unencumbered vision of the changing night skies was necessary to navigate and to determine optimal planting, hunting and harvesting times. In the modern world of GPS and centralized weather prediction we often place a low value on being able to see the patterns in the night sky. However, interfering with a clear night vision of the skies impacts many aspects of the ecosystem. The growth patterns of many plants, their ability to resist disease and physiologically prepare for winter are affected by the colour and duration of lighting. Artificial lighting can modify behaviour of animals in many ways. For example, nocturnal mammals adapt their behaviour to avoid predators, including limiting their foraging area which limits the amount that they can eat. Illuminated roads can separate animals from their normal foraging grounds. It is well known that light attracts many insects and fish. This concentration increases predation rate in the artificially illuminated land and waterways.

If there is no current need for artificial lighting, it should be removed. If artificial illumination is considered to be necessary, there are ways to lessen the environmental impact. The [International Dark Sky Association](#) recommends the Royal Astronomical Society's Guidelines for Outdoor Lighting. There are several guidelines that landowners should take note of:

- Light pollution is best reduced at the source by decreasing the light emitted.
- White lights should be avoided entirely. White light has high scattering properties in fog which is common in the Biosphere. The blue light components increase the impact of glare up to 10X that of amber light and undermine the night vision of many animals. Amber lights or a filter (Roscolux Deep Straw #15) can be used to lessen these impacts. Illumination described as "warm", "warm white", or Dark Sky Friendly may not be more environmentally-friendly than white light.
- Reflective components can sometimes lessen the need for artificial illumination.

# Light Pollution Affects Us All!

For more information, click on any of the images below.



Wildlife



Health



Energy



Safety



**Help us to promote best practices. Make a Christmas donation to the BLBRA. Go to [blbra.ca](http://blbra.ca)**



Maureen & Tom

- Where vehicle and pedestrian traffic is low, reflective signage can be used.
- Pathways should use white or light coloured gravel to reflect ambient light
- Passive fluorescent markers may be used to mark pathways
- Focused lights should be used to prevent light scattering beyond the immediate area
- low wattage railing-mounted lighting should be used such that the light is directed down
- motion detectors can be used to turn on lights along pathways and timing circuits can turn them off

For more information on light pollution and dark sky preserves, click [here](#). Also on [YouTube](#) or have a look at the international Starlight Initiative map [here](#).



## Fall Gathering of Canadian Biosphere Reserves Association *by Maureen Cameron-MacMillan*

From November 20<sup>th</sup> to 23<sup>rd</sup>, Tom Johnson and I had the opportunity to represent our beautiful Bras d'Or Lake Biosphere at the Canadian Association of Biosphere Reserves (CBRA) 2018 Fall Gathering. This event brought representatives from our 18 UNESCO-designated Canadian biospheres to the incredible Mount Arrowsmith Biosphere Region (MABR). In addition to uniting our diverse geographic regions in one room, this was also an opportunity for cross-cultural collaboration, with members of the Indigenous Circle representing many of the First Nations on whose land these Biosphere Reserves were situated.

After a reportedly lovely evening reception (which both Bras d'Or representatives missed due to travel delays), the gathering began the next morning with a CBRA meeting hosted at the historic Milner Gardens. Nestled among ancient Douglas fir and surrounded by countless rhododendrons, it's easy to see why it's considered one of Mount Arrowsmith Biosphere Reserve's Amazing Places! Meanwhile, the Indigenous Circle began their day at the Kwalikum First Nation. After





***The Mount Arrowsmith Biosphere Region on Vancouver Island, BC.***

lunch, the CBRA board joined the Indigenous Circle at Kwalikum First Nation and we all began working toward our two key objectives: developing a strategic vision for CBRA with input from all of the biospheres, and building and strengthening relationships between the CBRA board and the Indigenous Circle. Drawing heavily from Indigenous knowledge-sharing traditions, most of the gathering was held with participants sitting in a circle, and each person was given an opportunity to speak on the topic at hand. This allowed each person present to express the challenges and successes that they have experienced in their home biospheres, and to have their say on what they envision for CBRA and for Canada's biospheres in the future.

Participating in this wonderful gathering has given me a greater appreciation of our biosphere's shared connection with these other beautiful parts of the country, and it is with a sense of excitement that I look forward to welcoming CBRA to our Bras d'Or Lake Biosphere next June!



***Photo by Fred Baechler- Ben Eoin RV Campgrounds***

## Climate Change Adaptation Forum

Plans are underway for June of 2019 when the Bras d'Or Biosphere Reserve Association (BLBRA) and the Collaborative Environmental Planning Initiative (CEPI) will host a Forum on Climate Change Adaptation. This event, to take place in Wagmatcook and Baddeck from June 17 to 21, 2019, will be held in conjunction with the Canadian Biosphere Reserves Association's Annual General Meeting. Invited representatives from the other 17 Canadian UNESCO Biospheres, the Indigenous communities within these biospheres and the three levels of Canadian government will share their knowledge about Adaptation to Climate Change with the goal of producing Action Guidelines for use in communities across Canada. Stay tuned for updates on our preparations for this Climate Change Adaptation Forum.



***Photo of BLBRA board member, Annamarie Hatcher with Mi'kmaw Elder Dr. Murdena Marshall on a sweetgrass harvesting trip***

## Meet the residents: Sweetgrass

***By Annamarie Hatcher***

In Mi'kmaw culture sweetgrass (swi'te') is a sacred herb. In Mi'kmaq, Kijmskiku means 'great grass' (siku is grass and kijim means great or grand). In Unama'ki we have two species of grass which are called 'sweetgrass'. One is native and one is introduced. The native species is *Hierochloa odorata*, a scientific name derived from Greek and Latin. *Hierochloa* means "holy grass" and *odorata* means "fragrant". It is 'holy' because it is strewn before church doors on saints' days in northern Europe, New Mexico, Arizona and parts of the United States. This species is rare in Nova Scotia, and is a specialist of the upper saltmarsh zone where freshwater seeps meet tidal waters. It is a native in our Biosphere. It is also found above 40 degrees north latitude in Asia, Europe, and North America (from Newfoundland to Alaska). In the wild, the bases of the leaves are purple-red colored, indicating a phosphorus-deficient soil. The second sweetgrass species is called 'sweet vernal grass' (*Anthoxanthum odoratum* (Anthos means 'flower' and xanthos means



*Drawing of sweet vernal grass. Click on the drawing for source information.*

‘yellow’ in Greek and ‘odoratum’ means ‘scented’ in Latin)). It is an introduced, short-lived perennial plant native to acidic grassland in Eurasia which is now common in pastures, fields and roadsides in Unama’ki. It is believed that it was originally planted on dykelends by early settlers in Nova Scotia. Interestingly, in other areas, different species are called ‘sweetgrass’. In Mi’kma’ki, sweetgrass (both species) is often burned after the sage or cedar has driven out the bad influences. It is also put in pipe bundles and medicine bundles along with sage to purify and protect sacred objects. Sweetgrass is used in many ways including weaving into baskets and burning for smudging ceremonies. The vanilla-like smell of sweet grass is due to a chemical compound called ‘coumarin’. Although sweet-smelling, this compound is bitter to taste and it is believed that it evolved as a deterrent for predators. To learn more about sweetgrass, check out [this video](#) which was produced by board member Tom Johnson with Carol Anne Johnson:

**Information in this article was obtained from several sources including:** Tom Johnson and Elder Ernest Johnson from Eskasoni First Nation, [Wikipedia](#) and Goldsmith, F.B & Murphy, S.L., 1980. The ecological requirements of Hierochloa odorata in Nova Scotia, Holarctic Ecology 3: 224-232.



**Help support the work of the BLBRA this Christmas.**

**Contact Us:** [contact@blbra.ca](mailto:contact@blbra.ca)



*The BLBRA welcomes your comments or suggestions. Let us know if you do not wish to receive this newsletter. Address your comments or suggestions [here](#).*

**Just a reminder** from our October newsletter that if you want to check in on current weather conditions throughout the Biosphere and Cape Breton then click [here](#). The red dots on the map represent weather stations located in the Biosphere.



**Of Interest:** Two on-line courses at CBU starting in January.

**Critical Approaches to Outdoor Studies** – Curiosity. Click [here](#).

**Green Rights: The Human Right to a Healthy World.** For info click [here](#).



*As we approach the threshold of winter  
The Board of the Bras d'Or Lake Biosphere Reserve Association  
wishes you all a very Merry Christmas,  
Wli nipi alasutmamk, Joyeux Noël and Nollaig Chridheil.*



*Appreciate and Celebrate  
Rest and Replenish  
Embrace the Silence  
Rejoice and Receive the gifts of this season.*

*And may the New Year bring you peace and a renewed  
appreciation for the beauty and benefits of our Biosphere.*