

## Light Pollution Discussion Paper for the BLA

What is “Light Pollution”?

The name “light pollution” suggests that excessive light is a cause for environmental concern and needs to be addressed. The question is, should it play a part in the Baptiste Lake plan?

This paper outlines the issue of light pollution, focuses on the impact of excessive light in cottage and lake country and provides some recommendations and best practices for consideration.

Excessive light or “light pollution” has been blamed for a variety of ills. Among its many sins, it impedes astronomers from observing the galaxies, wastes energy, causes unnecessary greenhouse gas emissions owing to excessive generation of electricity from fossil fuels, and is alleged to cause a range of ailments, including headaches, worker fatigue, medically defined stress, decrease in sexual function and increase in anxiety. More relevant perhaps to a cottage and lake situation, it has been shown to disrupt ecosystems. According to researchers, <sup>1</sup> light pollution poses a serious threat in particular to nocturnal wildlife, having negative impacts on plant and animal physiology. It can confuse animal navigation, alter competitive interactions, change predator-prey relations, and cause physiological harm. The rhythm of life is orchestrated by the natural diurnal patterns of light and dark, so disruption to these patterns impacts the ecological dynamics.

Studies suggest that light pollution around lakes prevents zooplankton, such as daphnia from eating surface algae, helping cause algal blooms that can kill off the lakes' plants and lower water quality. Light pollution may also affect ecosystems in other ways. For example, scientists have documented that nighttime light may interfere with the ability of moths and other nocturnal insects to navigate. Night-blooming flowers that depend on moths for may be affected by night lighting, as there is no replacement pollinator that would not be affected by the artificial light. This can lead to species decline of plants that are unable to reproduce, and change an area's long-term ecology.

Perhaps equally important, the concept known as “light trespass” can annoy and inconvenience neighbours who have come to the lake to enjoy a peaceful, rural environment. Just as excessive noise late into the evening can ruin a peaceful evening at the cottage, so too can excessive light that penetrates the sanctity of a neighbouring home, garden or lot. Consideration for the environment and for one’s neighbours applies as much to light as to sound.

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<sup>1</sup> T. Longcore and C. Rich (2004). ["Ecological light pollution". \*Frontiers in Ecology and the Environment\* 2 \(4\): 191–198. DOI:10.1890/1540-9295\(2004\)002\[0191:ELP\]2.0.CO;2](https://doi.org/10.1890/1540-9295(2004)002[0191:ELP]2.0.CO;2)

## Best Practices

In terms of addressing light pollution, the first step is to recognize that it exists and to assess how you deal with lighting situations on your own property. Here are some suggestions produced by Canadian Living in a recent article on light pollution;

### **1. Reduce the light escaping from your home**

Put your exterior lights on motion detectors so they only come on when needed. Minimize wattage, and direct illumination toward the ground, not upward, where it's of little use but contributes to sky glow (or goes into your neighbour's home).

### **2. Cool it with the indoor lighting**

Put as many household lights as possible on dimmer switches so you can save energy while you enjoy mood lighting. Help your body and mind wind down toward bedtime by turning off lights. Stick with table and floor lamps, not harsh overheads.

### **3. Lights out in the wilderness**

When camping and cottaging, keep exterior lights off as much as possible as they can interfere with the body clocks of nocturnal creatures like salamanders, giving them fewer hours to scavenge for food. And keep interior light indoors with blackout curtains.

## Summary

Light is an essential element for all of us, for convenience, safety, even esthetics. While some lighting is required outside at night, you can reduce the amount of pollution by ensuring that lights are only used when necessary, and are directed at the ground or where illumination is required for safety. Consider using low-wattage or solar lights which emit less glow.

## Recommendations

1. BLA include "light pollution" as one of the areas to be incorporated into the plan
2. Advocacy against light pollution should recognize legitimate, reasonable and lawful uses of lighting at night
3. Education rather than imposing penalties should be the preferred means to secure compliance
4. BLA consider mounting a publicity campaign to make residents aware of the harm of light pollution, with suggestions as to how they can contribute to mitigating its effects.

Respectfully submitted,

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