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Testimony of Representative Laurie Osher presenting
LD 1845, An Act to Regulate Outdoor Lighting
Before the Joint Standing Committee on Environment and Natural Resources

Senator Brenner, Representative Gramlich and honorable members of the Environment and Natural Resources Committee, I am Laurie Osher and I represent District 25, the majority of Orono. Thank you for the opportunity to present **LD 1845, An Act to Regulate Outdoor Lighting**.

If you have ever seen a nighttime satellite image of the United States,¹ you may have been struck by how incredibly bright the eastern U.S. is. 99% of Americans live under light-polluted skies.² But not here in Maine. In Maine, we have some of the darkest areas in the northeast: The Maine North Woods. Unlike the rest of the eastern seaboard, northern Maine's skies are almost completely dark.

When I moved to rural Maine in 1999, I looked up and saw so many stars; and I thought we all did. Two years later, I was finally able to find a house in Orono, where my soon-to-be-born twins would be able to walk to school. That first night in Orono, I realized that not all of Maine enjoyed dark skies. I couldn't see as many stars because we had street lights and well lit parking lots and some businesses that had lights at ground level that pointed upwards to illuminate their signs or their buildings. There was even a street light just outside my house. When that street light started to blink intermittently, we found it a bit spooky, but as the times it was off were longer than the times it was on, I was not-so-secretly pleased to have more dark at night than light.

When I called the town to report the blinking, they informed me that that light was owned by the power company. Orono had put in a request for the utility to replace the lamp, but getting service was challenging. Years later, when I served on the Orono Town Council, I was impressed when the public works director proposed a plan to address the street light service issue and so much more. The first step was to identify the ownership of every street light in Orono (some were owned by the town, others were owned by the electric utility), next was to purchase the ones we didn't own, and finally convert them all to LEDs. The plan would save money because each new LED bulb would last for decades and cost so

¹ https://eoimages.gsfc.nasa.gov/images/imagerecords/84000/84722/unitedstates_dnb_2012_lrg.jpg

² <https://www.darksky.org/80-of-world-population-lives-under-skyglow-new-study-finds/>

much less, lighting with LEDs would lower the town's C footprint, and there would be no more requesting service from a third party.

Then, two years ago, just after the 130th Legislature began, the new LED street lamps were installed. Calls started coming in about the problem with the lights. They were too bright! The light disrupted people's sleep, and even though they pointed down, Orono's streets felt like they were lit up like daylight. Orono had no budget to buy new LED bulbs with less blue light; they'd already bought new bulbs. It seemed important that no other town would experience an upgrade that missed the mark.

It was also clear that at nighttime, other municipalities in Maine seemed to be getting brighter with each year that I'd called Maine home. Businesses and municipalities were switching to LEDs, and the lower cost per bit of brightness allowed people to feel comfortable investing in more outdoor lighting. If this lighting trend continues, the light from municipalities in Maine would soon prevent so many of us from looking up at night and seeing the stars.

I reached out to the State's Law Library to find out if Maine had any guidelines for outdoor lighting. They directed me to LD 11, which passed in the 124th: "Resolve, To Encourage the Preservation of Dark Skies," addressing light pollution in Maine. This resolve directed the State Planning Office to establish uniform state standards for new commercial construction and the lighting of the outside surrounding space to limit light pollution. There was a report,³ but state standards for outdoor lighting were not created or enforced, because shortly after this bill became law, the State Planning Office was dissolved.

Nineteen states, including Maine, the District of Columbia and Puerto Rico, have legislation about outdoor lighting. In crafting this bill, I worked with others to create a bill that pulled together the best features of the legislation already passed in other states.

Why does this matter? Throughout history, all life on Earth lived with and adapted to a day-night cycle that included nighttime periods of darkness. But today, many of us never experience truly dark nights. Research links nighttime artificial light to harmful human health effects ranging from sleep and mood disorders to metabolic disease and cancer.⁴ Just as it disrupts our human circadian rhythms, it also disrupts the natural rhythms of and causes harm to our wildlife and ecosystems, interfering with migration, reproduction and the predator-prey relationship, among other effects.⁵ Unnecessary outdoor lighting further harms our planet by wasting energy, contributing to climate change and wasting valuable resources.⁶

³ https://www.maine.gov/dacf/municipalplanning/docs/final_dark_skies_report_with_appendices.pdf

⁴ <https://www.darksky.org/light-pollution/human-health/>

⁵ <https://www.darksky.org/light-pollution/wildlife/>

⁶ <https://www.darksky.org/light-pollution/energy-waste/>

Our dark skies are an incredible asset, one we should protect and expand on. That is what LD 1845 aims to do.

Some Maine communities are already recognizing just how valuable our dark skies are. In western Maine, Rangeley residents are seeking certification as a Dark Sky Community, knowing the designation will draw attention and visitors to the region.⁷ To the east, the Acadia Night Sky Festival draws hundreds of stargazers each year.⁸ They know that, in addition to the environmental and human health benefits, dark skies have the potential to be a considerable economic driver.

The good news is that light pollution is both preventable and reversible, and there are a number of relatively simple ways to address it. The International Dark Sky Association outlines five basic principles for responsible outdoor lighting:

1. All light should have a clear purpose that cannot be addressed through some other means, such as reflective paints.
2. Light should be directed only where it's needed, using shielding to prevent it from being directed where it isn't.
3. Light should be no brighter than necessary.
4. Light should only be used when it's useful, using strategies like timers or motion detectors.
5. Whenever possible, shorter wavelength (blue-violet) light should be limited in favor of warmer color lights.

As drafted, LD 1845 seeks to apply these principles to outdoor lighting in Maine. The current bill would do so by imposing requirements, but I've heard from many stakeholders that there are parts of this bill that are concerning to them. I am working with stakeholders to draft an amendment that would provide support to Maine communities so that they can invest in responsible outdoor lighting. I would greatly appreciate the opportunity to present this amendment to the committee at work session.

Thank you for your consideration. I am happy to answer any questions you may have for me.

⁷ <https://www.mainebiz.biz/article/rangeley-group-seeks-dark-sky-designation-as-economic-driver>

⁸ <https://skyandtelescope.org/astronomy-news/stars-shine-brightly-for-acadia-night-sky-festival/>