MAINE AUDUBON

Committee on State and Local Government
% Legislative Information Office
100 State House Station
Augusta, ME 04333

May 12, 2025

RE: LD 1934, An Act to Promote Responsible Outdoor Lighting

Dear Sen. Baldacci, Rep. Salisbury, and Members of the SLG Committee:

My name is Francesca "Ches" Gundrum and I am Maine Audubon's Director of Advocacy. Maine Audubon is a wildlife conservation non-profit – we fulfill our mission to "conserve Maine wildlife and wildlife habitat" by engaging people of all ages in nature through a science-based approach to education, conservation, and advocacy. On behalf of Maine Audubon and our 30,000 members, supporters, and volunteers, thank you for the opportunity to submit testimony in support of LD 1934, *An Act to Promote Responsible Outdoor Lighting*.

Artificial lighting produces a broad range of ecological impacts. Wasteful and unnecessary lighting can produce demonstrable effects on the behavior and population ecology of wildlife. Like humans, animals and plants live by a rhythm that is attuned to our planet's 24-hour lightness and darkness cycle. Similar to what humans experience when their circadian rhythms are disrupted (such as when they change time zones and during daylight savings time), wildlife experience a disorientation of time when there is too much artificial light at night. This "disorientation" has population-level impacts and is fairly easily avoided.

Many species of birds migrate or hunt at night, making them extremely vulnerable to bright lights in areas that are naturally dark. Artificial night light can disrupt important visual cues, causing migrating birds to wander off course and either never reach their intended destination or reduce their energy stores that are needed to arrive at their final destination.[1] Similarly, artificial lights can interfere with amphibian movement, make breeding and migrating frogs and salamanders more vulnerable to predation, and affect foraging, breeding, growth, and development.[2]

Artificial night lighting can also disrupt reproductive behaviors in birds by altering their natural circadian rhythms, leading to changes in mating calls, nesting times, and overall breeding success. A 2010 study comparing reproductive behavior of Blue Tits breeding in edge territories with and without street lights found that artificial light caused female Blue Tits to start laying eggs earlier, which may lead to a mismatch between the time of peak food demand from the offspring in the nest and the peak in food availability.[3]

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[1] Catherine Rich and Travis Longcore, eds., *Ecological Consequences of Artificial Night Lighting* (Washington, DC: Island Press, 2006), Chapter 4.
[2] Catherine Rich and Travis Longcore, eds., *Ecological Consequences of Artificial Night Lighting* (Washington, DC: Island Press, 2006), Chapters 9 & 10.
[3] Kempenaers, B., Borgstrom, P., Loes, P., Schlicht, E., Valcu, M.,12 October 2010, "Artificial Night Lighting Affects Dawn Song, Extra-Pair Siting Success, and Lay Date in Songbirds," *Current Biology*, Volume 20 (19): https://pubmed.ncbi.nlm.nih.gov/20850324/

Unfortunately, some taxa experience attraction to light. When excess artificial light is present, this tendency can cause unintentional movement. For example, moths and other insects are attracted to artificial lights and may stay near that light all night. This activity expends unnecessary energy, interferes with mating and migration, and leaves insects exceedingly vulnerable to predators.[4] Studies have shown that light pollution is a driver of insect decline, along with habitat loss, pesticide use, invasive species, and climate change.[5] **As species' populations begin to drop or as once-common animal species become less common, it is imperative to consider the cumulative impacts of the many threats to Maine's natural resources – *artificial lighting is one of those many threats.***

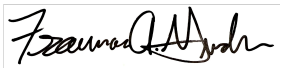
Thankfully, Maine is privileged with dark skies, a precious natural resource increasingly rare in our modern world. In addition to protecting ecosystems, dark skies help foster a deeper connection to nature. The exciting celestial events of last year, April's solar eclipse and Northern Lights events, inspired tens of thousands of Mainers to get outside to witness these dazzling displays for themselves. Whatsmore, they demonstrated that people outside of Maine are willing to travel and to spend in order to witness an astronomical phenomenon that they cannot experience at home. Both the Katahdin Woods and Waters National Monument and the Appalachian Mountain Club's property in Piscataquis County have been recognized by Dark Sky International for the quality of their night skies.

This growing appreciation of dark skies as a unique natural resource will only augment should LD 1934 advance. With plenty of safety, sports-related, and other exemptions, this legislation would require that new or replacement lighting installed using public funds or on public property meets standards that prevent light pollution, and it obligates municipalities to adopt local ordinances to do the same with support from a model ordinance drafted by the Maine Office of Community Affairs.

As light pollution around the globe is becoming a critical issue for both people and wildlife, the time is now to protect Maine's dark skies. **It is with great enthusiasm that we encourage the committee to support the LD 1934.** We appreciate Rep. Osher for putting this bill forward.

Thank you for your time and consideration.

Sincerely,



Francesca "Ches" Gundrum
Director of Advocacy

[4] Catherine Rich and Travis Longcore, eds., *Ecological Consequences of Artificial Night Lighting* (Washington, DC: Island Press, 2006), Chapter 13.
[5] Owens, A., Cochard, P., Durrant, J., Farnworth, B., Perkin, E., Seymoure, B., January 2020, "Light pollution is a driver of insect declines," *Biological Conservation*, Volume 241: https://www.sciencedirect.com/science/article/abs/pii/S0006320719307797