MAINE AUDUBON

Committee on Environment and Natural Resources
% Legislative Information Office
100 State House Station
Augusta, ME 04333

May 8, 2023

RE: LD 1845, An Act to Regulate Outdoor Lighting

Dear Senator Brenner, Representative Gramlich, and Members of the Committee:

Thank you for the opportunity to submit testimony in support of LD 1845, An Act to Regulate Outdoor Lighting, on behalf of Maine Audubon and our 30,000 members, supporters, and volunteers.

Outdoor lighting has a significant, negative impact on 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. For these reasons and more, Maine Audubon supports LD 1845.

Artificial light – including "urban sky glow" (brightening over inhabited areas) and light falling where it is not intended, wanted, or needed – impacts all wildlife, including mammals, amphibians, reptiles, birds, and insects. Impacts to birds and insects are of particular interest to Maine Audubon.

Many species of birds migrate or hunt at night, making them extremely vulnerable to bright lights in areas that are naturally dark. Artificial lights, including "urban sky glow," can cause migrating birds to wander off course and either never reach their intended destination or unnecessarily expend energy needed upon their arrival at their intended destination. 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.[1]

[1] 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), pages 1735-1739.

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. Studies have shown that light pollution is a driver of insect decline, along with habitat loss, pesticide use, invasive species, and climate change.[2]

Thankfully, light pollution is unique among anthropogenic habitat disturbances in that it is fairly easy to ameliorate. This bill includes a prime amelioration strategy: shielding outdoor lights and limiting the use of unshielded outdoor lights, with exceptions.

A light is "shielded" if it is accompanied by a shield or other device that ensures that light emitted from the fixture is projected below the horizontal plane running above the emitting light. Shielding lights helps direct light to where it is actually needed and significantly reduces impacts to wildlife. Shielding reduces wattage and in turn is a cost saver.

While Maine Audubon ultimately supports this bill and believes the state must actively pursue strategies to address the harm of light pollution, we appreciate that some might view the bill as "too much, too fast." With that in mind, we offer the following: Require shielded lights and required "turn off" times, with exceptions, in public improvements; that the Department of Administrative and Financial Services, Bureau of General Services develop an outdoor lighting guide to be made available for public use; and report delivered back to the Committee on progress incorporating shielded lights, etc. into public improvements, with the ability of the Committee to put out legislation based on the report. We have pursued a similar approach, with success to date, on a bill to incorporate bird and wildlife risk-management strategies into architectural design.

Thank you for your consideration.

Sincerely,

Eliza Donoghue, Esq.
Director of Advocacy

[2] 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 (108259).