



Maryland General Assembly – Senate EEE Committee – February 20, 2024

SB405 - Outdoor Lighting - Standards and Use of State Funds

TESTIMONY OF DR. MARK SOUTHERLAND – **FAVORABLE**

I am a professional ecologist who has served on the boards of Maryland Science Council, Maryland Water Monitoring Council, Howard County Environmental Sustainability Board, Howard County Conservancy, and Patapsco Heritage Greenway. I represent **Safe Skies Maryland** and **Maryland Ornithological Society**, a statewide organization dedicated to saving birds, wildlife, and people.

Artificial Light At Night (ALAN) is seriously bad for animals including humans. This bill is an important step toward reducing the damaging effects of the wrong type of light, in the wrong amounts, and in the wrong places.

Human Impacts

Exposure to ALAN suppresses melatonin secretion and tends to delay sleep. Circadian misalignment caused by chronic ALAN exposure, including excessively bright lights from neighboring public facilities, may have negative effects on psychological, cardiovascular and/or metabolic functions. We have likely yet to understand all the negative impacts of ALAN on human health and welfare.

Birds Impacts

ALAN can cause confusion, disorientation, and exhaustion in birds—directly impacting their ability to migrate. For example, migratory birds (including seabirds, ducks, geese, sandpipers and songbirds of all kinds) can be attracted to ALAN as far as 5 kilometers away, become disoriented, and circle structures for extended periods of time, leading to exhaustion or accelerated use of energy stores critical for migration, and fatal collision with buildings and infrastructure. ALAN also causes birds to nest earlier, by up to a month, which could result in asynchrony between nesting and peak food availability. ALAN and other impacts have reduced U.S. bird populations by 29% since 1970.

Insect Apocalypse

The world has lost 5% to 10% of all insect species in the last 150 years. ALAN is contributing to this decline by compromising essential defensive behaviors of insects when near artificial light, making them vulnerable to predators. Billions of moths and other nocturnal insects are killed each year just by sheer exhaustion at being unable to escape the light if they are not immediately killed by a hot light source. Fireflies are particularly affected, as ALAN drastically reduces their light-blinking behavior, threatening their ability to mate and pollinate flowers.

We strongly encourage the committee to make a favorable report on this bill.

Thank you.

A handwritten signature in black ink, appearing to read "Mark Southerland", written over a horizontal line.