## Light pollution threatens local wildlife

Urban wilds make Boston great. Let's not illuminate them out of existence.

By Annie Nguyen and Avalon C.S. Owens Tufts University, Department of Biology

The Alewife Brook Reservation is one of the few places in Boston where you can still find fireflies. Nestled between the Concord Turnpike and Alewife T Station, this humble wetland is home to diverse native plant and animal species, and serves as an important rest stop for migrating birds. It is one of our city's greatest treasures, but we haven't been treating it that way.

In recent years, commercial real estate development by The Bulfinch Companies has confined the reservation to a narrow strip of wilderness separating two enormous complexes of glass buildings and manicured lawns. Bulfinch invested a lot of money in building what they call "green architecture," but apparently there wasn't enough to pay for curtains, because bright light from their big glass windows glares into the reservation all night, every night, in summer and winter alike.

This light serves no purpose — we have peered in these windows on several evenings, and never seen anyone working. And it does real harm. It's not just that nighttime strolls on the boardwalk have become less pleasant, or stargazing more difficult. Light pollution harms wildlife in many ways, some of which we are only beginning to understand.

If you've ever stayed up late staring at your phone in bed, or used a full-spectrum light to pull yourself out of the Boston winter blues, then you know that seeing light at the wrong time can make your body think that it's daytime, or summer. When bats or moths think it's daytime, they go back to sleep — instead of mating, foraging, controlling pests, or pollinating our plants. When birds think it's summer, they develop too early in the spring and migrate too late in the fall.

If you've ever been blinded by the ultra-bright headlights of an oncoming vehicle, then you know that too much light can make it hard to see. Fireflies have eyes thousands of times more sensitive than our own, which they use to see the flashes of potential mates. Bright lights like those at Alewife <a href="make-it hard-for them to see anything at all">make-it hard-for them to see anything at all</a>. These same bright lights draw in migrating birds, with frequently fatal consequences: collisions with lit windows kill millions of birds each year.

We can drive away from headlight glare, or find somewhere nicer for nighttime strolls. Wild animals aren't so lucky. Perhaps once they could have retreated to shady refuges, but that was before O'Neil Properties removed over 700 trees to make room for condominiums.

The solution to the Bulfinch light pollution problem is (1) better lighting regulations, and (2) better enforcement of existing environmental regulations. We don't allow developers to pour toxic chemicals into our waters. Nor should we let them pollute our wetlands with their lights. The costs of limiting light pollution are negligible — it's as simple as flipping a switch or closing a pair of curtains — and the environmental benefits are immense, and immediate.

The state legislature may be voting on a "dark-sky" bill soon: <u>H.2858</u> was passed to the Joint Committee on Ways and Means last week, which will decide if and how to enforce its restrictions on state and municipal purchases of ultra-bright, unshielded artificial lights. If H.2858 is passed, Massachusetts will become one of the first states to regulate public lighting in terms of light pollution, rather than electricity consumption alone. It would be a powerful first step, but it won't happen unless we let our legislators know that their constituents (and animal neighbors) care about this issue.

While we wait for Massachusetts to act, we can help Alewife and other urban wilds now. If you live or work near wildlife habitat, turn off the lights when you leave a room. Close your curtains at sunset. Petition building managers to remove purely aesthetic external lights, especially facade lighting, or install motion-activated timers. If you're able, consider planting shade trees to restore pockets of natural darkness to the nighttime landscape. And be sure to visit Alewife Brook Reservation this summer to see the fireflies while you still can.