

2017 Next Edition Building Code Consultation
c/o Building and Development Branch
Ministry of Municipal Affairs
16th Floor - 777 Bay Street
Toronto Ontario M5G 2E5

via email buildingcode.consultation@ontario.ca

September 29, 2017

RE Consultation on proposed Changes to Ontario's *Building Code*

Dear Sir or Madam:

The Canadian Environmental Law Association (CELA) welcomes this opportunity to comment on the potential changes to Ontario's *Building Code* and we applaud the Ministry of Municipal Affairs' efforts to support reductions in greenhouse gas emissions in the building sector.¹

For nearly 50 years, CELA has used legal tools, undertaken ground-breaking research and conducted public interest advocacy to increase environmental protection and the safeguarding of communities. We work towards protecting human health and our environment by actively engaging in policy planning and seeking justice for those harmed by pollution or poor environmental decision-making.

In response to the Ministry's forthcoming deliberations on the implementation of the government's Climate Change Action Plan (CCAP), CELA requests the Ministry consider a parallel issue affecting buildings, design and the environment: that of bird strikes and the need for bird-friendly design.

During the spring and fall bird migrations, each of Toronto's 950,000 buildings kills between 1 to 10 birds. These are birds drawn by the City's nighttime lights and disoriented by the glare of reflective windows and surfaces. Between 1 million to 1 billion unnecessary bird deaths are caused by collisions with windows and building exteriors.²

¹ Online: <http://www.mah.gov.on.ca/Page16487.aspx>

² Online: <http://flap.org/faqs.php>

It is necessary that the Ministry be cognizant of changes made to the *Building Code* - aimed at the reduction of greenhouse gas – do not have a repercussive effect and proliferate incidence of bird collisions. This consultation and future Ministry deliberation provide a timely opportunity to recognize the utility of the *Building Code* in preventing bird collisions, harm and fatalities.

CELA's recommendations to the Ministry are set out below.

RECOMMENDATION 1

The *Building Code*'s objectives can further bird-friendly design

As set out in section 2.2.1.1 of the *Building Code*, two of its seven main objectives are Resource Conservation and Environmental Integrity. These overarching objectives frame the Code and by extension, any amendments to the Code considered by the Ministry must further these objectives.

The Code's commitment to resource conservation and environmental integrity is reaffirmed by the Ministry's Statement of Environmental Values (SEV), required under Ontario's *Environmental Bill of Rights*.³

It is important that the proposed changes to the *Building Code*, such as increasing energy efficiency, changing building components in new houses and increasing the inclusion of green technology within structures, is not pursued in isolation of bird-friendly design considerations. Bird-friendly building design furthers the resource objectives and environmental integrity objectives of the Code and Ministry's SEV and therefore is a relevant consideration to these proposed climate related amendments.

RECOMMENDATION 2

Climate-friendly must also mean bird-friendly

Birds are vital contributors to ecological services, through their provision of pollination, seed dispersion and pest control. A literature review conducted by the Food and Agriculture Organization of the United Nations (FAO) found that "biotic stress accompanied with climate change may cause further [pollinator] population declines"⁴ and "climate change has the potential to severely impact ecosystem services such as pollination."⁵

³ Statement of Environmental Values: Ministry of Municipal Affairs and Housing, online: <http://www.ebr.gov.on.ca/ERS-WEB-External/content/sev.jsp?pageName=sevList&subPageName=10006>

⁴ Online: http://www.fao.org/fileadmin/templates/agphome/documents/Biodiversity-pollination/Climate_Pollination_17_web_2_.pdf, p 6

⁵ *Ibid*, p vii

Given the scale of bird mortality that results every year during migration and the known fact that of all manmade hazards, windows remain the number one threat to birds next to cat predation,⁶ climate-driven amendments to the *Building Code* must aim to protect bird diversity and population.

Bird-friendly design options are already well documented and no further research or resources would be required by the Ministry to adopt these procedures and technical amendments. For instance, the U.S. Green Building Council and its Leadership in Energy and Environmental Design (LEED) program require the following bird collision deterrence measures in its green building certification program:

- **Building façade and site structure:** Develop a building façade and site design strategy to make the building and site structures visible as physical barriers to birds.⁷
- **Bird Collision Threat Rating:** no more than 15% of a façade can exceed a Threat Factor of 75.⁸ The US GBC has designed a free, bird collision threat rating calculation spreadsheet to facilitate this determination.⁹
- **Exterior Lighting:** exterior building fixtures that are not necessary for safety, building entrances, and circulation shall be automatically shut off from midnight until 6 a.m. LEED also specifies the luminaire uplight ratings that areas of the building cannot exceed.¹⁰

Similarly, the City of Toronto has produced two documents that support the application of bird deterrence and light pollution reduction from buildings. A number of the recommended practices serve the dual purposes of being bird-friendly and also energy efficient. For instance, the Best Practices for Bird-Friendly Glass¹¹ recommends:

A building designed with a total window surface area of 25-40 percent relative to the entire facade (low window to wall ratio) can reduce fatal bird collisions. When coupled with passive solar strategies such as daylighting, the design can also provide high-quality light, and help reduce energy use for heating and cooling [emphasis added].

Similarly, regarding the incorporation of green technology into new builds (as highlighted in the Ministry's Executive Summary), photovoltaic panels can be incorporated into windows, in place of

⁶ LEED, Bird Collision Deterrence PowerPoint Presentation

⁷ Online: <https://www.usgbc.org/node/4561982?return=/pilotcredits/all/v4>

⁸ *Ibid*

⁹ See online: <https://www.usgbc.org/resources/bird-collision-threat-rating-calculation-spreadsheet>

¹⁰ Online: <https://www.usgbc.org/node/4561982?return=/pilotcredits/all/v4>

¹¹ Online: <https://web.toronto.ca/wp-content/uploads/2017/08/8d1c-Bird-Friendly-Best-Practices-Glass.pdf>

exterior glass panels, and while producing renewable energy they also create a visual marker for birds to perceive and thus avoid.¹²

CONCLUSION

The peak of fall migration is upon us and so too, is the opportunity to recognize the utility of Ontario's *Building Code* to actively respond to climate change in a way which furthers the environmental principles of protection and conservation.

We strongly encourage the Ministry, in its review of proposed climate change amendments, to incorporate bird-friendly design measures which will directly prevent the needless deaths of hundreds of thousands of birds on an annual basis. We appreciate this opportunity to comment and would welcome the opportunity for further discussion.

Truly,

CANADIAN ENVIRONMENTAL LAW ASSOCIATION



Kerrie Blaise

Counsel

¹² Online: <https://web.toronto.ca/wp-content/uploads/2017/08/8cd7-Bird-Friendly-Development-Guidelines.pdf>, p 17