Comments on Report to Planning and Environment Committee on Bird-Friendly Development
Monday November 18 2019

My name is Brendon Samuels. I am a graduate student at Western University where I do research on bird-window collisions. I attended the PEC public meeting and provided some of my comments. However, given the 5 minute limit, I was unable to cover all of my comments, so I have listed them below for the committee's review.

Secondary sources which support my points below can be made available upon request in the form of an annotated bibliography.

General comments

- The proposed amendments to the Site Plan Control Area By-law for bird-friendly development are recommended. Comparable requirements for lighting have already been adopted in other municipalities in Ontario, in other parts of Canada and in the United States. I point this out because the birds being protected do not belong to London and will traverse many municipalities. Society has a shared responsibility to protect birds from harm in our own backyard, and bird-friendly action undertaken by London can achieve that.
- However, the wording of the By-law should be consistent with current ecological research, and there are some items covered where the wording should be updated.
- In my opinion the background information provided is missing certain critical details. I've sorted my suggestions for missing details below, first with general information, second the artificial light at night piece and third the glass treatment piece to be discussed by a working group moving forward.
- I agree with the London Development Institute's comment (see their attached letter) that "clear bird-friendly design requirements be included in the Site Plan Design Manual for standards and designs". I would like to add that these requirements should reflect current ecological data, especially previous scientific studies on related topics such as the efficacy of collision deterrent markers, films, etc. and best practices for reducing artificial light at night.
- According to current scientific studies within Canada, less than 1% of bird-window collisions occur at high rises buildings. Most are at low-rise buildings and homes. High rise buildings are not the main source of the collisions issue.
- The majority of bird-window collisions are thought to occur during the day, starting in early morning and lasting through mid-day. This means that artificial light at night is not the primary factor underlying collisions with glass for most collisions.
- Page 5, section 3.4 Migratory Bird Season: *"the City's Ecologist has advised that there is no distinct season for bird migration in the London area. A review of bird migration would require a detailed investigation on a species by species basis."* There are two statements here that are patently false. There are two seasons for bird migration in London, spring and fall, and the onset of these periods is established (although no particular dates can be marked as the exact starts and ends). Also, there is already detailed data available on bird migration timing through various programs run by Bird

Studies Canada, from nearby bird banding stations in SW Ontario, and through citizen science databases (e.g. eBird). In fact birdwatchers visit from all over the world in spring and fall to witness the legendary migration here in SW Ontario.

- *"However, it is proposed that the City of London apply the City of Toronto's model for the migratory spring and fall seasons…"* Toronto's by-law and development guidelines for bird friendliness are some of the most progressive of their kind in the world. I recommend following their lead.
- The City of London will be hosting the annual meeting of American Ornithological Society in 2021. This is one of the largest meetings of bird experts. It would be great to have bird-friendly initiatives in place before then.

Comments on Lighting Piece

- Artificial Light at Night (ALAN) is detrimental not only for birds but for entire ecological systems including other animals such as bats, insects and mammals, as well as for human health. According to recent scientific studies, ALAN negatively impacts birds in multiple ways: collisions with buildings is one, but ALAN also alters birds' timing of migration and breeding. The timing of behaviours like calling and singing at dawn and dusk may be affected.
- In section 2.2 Site Plan Design Manual, paragraph 5: "Section 8.2 (b) *Height, limits the maximum height of all yard lighting fixtures to 15m (50 ft.) for non-residential uses and 6 m (20 ft.) for multi-family residential uses".* Could you clarify where these criteria for fixture height come from? Currently best practices (e.g. Toronto's by-law) recommend treating glass up to the anticipated height of the nearby tree canopy. For much of the deciduous forest in London trees may reach up to the 4th floor (i.e. approximately 40 feet in height).
- Section 2.2 Site Plan Design Manual, paragraph 5: *"the Site Plan Design Manual 8.2 (d) allows staff to require a Light Study where a qualified engineer will prepare and provide a report demonstrating how the lighting is contained on the site and that the selection/style of light will not create glare and/or broadcast light onto adjacent properties or roadways*". Similarly, two paragraphs later, "*16. Lighting Facilities: All lighting of the site shall be oriented and its intensity controlled so as to prevent glare on adjacent roadways and residential properties to the satisfaction of the Managing Director*."
- Can you clarify whether Light Studies factor in light spillage into nearby natural areas? (unsure if these are encompassed by "properties" mentioned here). Also, is this simply looking at light spillage only at immediately adjacent properties?

Comments on Glass Treatments Piece

- 3.1 Site Plan Control Bylaw Proposed Amendments: "*The proposed amendments to the Site Plan control By-law set out the objectives of bird-friendly design generally and bird-friendly lighting specifically*" – is this by design, for the ultimate version of the By-law

amendments, or for describing current progress? The bird-friendly design criteria should not be "general" – as indicated by the Development Institute more specificity is needed.

- "*Development Services staff presently lack the specific training to ensure buildings can be considered 'bird-friendly- but can rely on other professional staff and advisory groups to provide the ecological expertise to identify bird-friendly development*" Does this training exist? Who has it? Who should have it? Potentially training could be replaced with a comprehensive document outlining standards and best practices.
- 3.3 Effectiveness of Visual Markers and Glass Alterations. I will save the majority of my comments for discussions held by the working group. However, I want to indicate a couple things here: 1) the efficacy of glass treatments depends not just on the treatment itself but how it is used – should be applied to the exterior of the glass to break up reflections, not the interior; 2) treatments should be applied to cover edge-to-edge of the window leaving no major gaps; 3) some of the "potential glass design elements" listed have not been backed by empirical scientific studies, including UV glass. "Fritted" glass has practical considerations that may influence its efficacy such as the specific layer of the glass within a window that is modified.

3.5 Awareness Campaign – Existing Buildings not Subject to Site Plan

- I hope that similar to the lighting and window treatment pieces, this campaign will be designed and coordinated upon consultation with ecological experts.
- One thing to note is that windows cannot be retrofitted for reducing bird-window collisions in cold temperatures (due to requirements of adhering the materials to the glass). For this reason, consider adjusting the timing of the campaigns to afford people time to pursue mitigative actions ahead of migration in fall.

4.0 Additional Considerations *"…Council passed the implementation of program guidelines for Downtown Façade Uplighting Grant Program." This incentive program is contained within the existing façade Improvement Loan program provided by the City of London through the Downtown Community Improvement Plan*".
It would be ideal if a similar incentive program could be set up for retrofitting existing glass windows with treatments/products/deterrents that can reduce the risk of bird collisions. Currently the cost of fixing dangerous windows on existing structures is entirely paid by consumers/property owner. Retrofits are typically more expensive than new installations because they often require a more complicated installation involving equipment rentals and hiring a contractor.

Regarding the letter from the London Development Institute
"*We do not believe it is fair and reasonable that a Site Plan submission, that meets the standards, be delayed up to 30 days due to Advisory Committee circulation requirements.*" *"… if bird-friendly glass and lighting are standardized within the Site Plan Design Manual, it would be redundant to have the Ecologist circulated on the application for buildings over 6 stories*"
I disagree with the above comments because the collision risk at any particular site might vary based on a number of factors (e.g. nearby vegetation and bird habitat, type of glass used,

structural configuration of the building, geographic location of the site, presence of plants indoors, the angle and direction of the glass facades, parallel glass panes presenting a corridor). The standards/guidelines provided to the Development Institute should be as explicit and specific as possible, but it is unlikely the documents will be able to prescribe assessments and recommendations for every single possible scenario in which glass is used in construction. For this reason, redundancy in the Site Plan review process by committees and the Ecologist will be able to provide additional recommendations before developers proceed with construction. If development proceeds and the glass that is used ends up killing birds, despite compliance with the documents, it is 4-5 times more expensive to retrofit existing glass than to treat the glass at the onset.