
Mitigating Bird Strikes to Glass Buildings

Recommendation

That the report of the Acting General Manager, Corporate Performance Department, dated December 4, 2018 be received as information.

Topic and Purpose

The purpose of this report is to provide information on building guidelines and other strategies to mitigate bird strikes to Saskatoon buildings.

Report Highlights

1. In Canada, approximately 25 million birds are killed annually by colliding with windows. At this time, there is limited information regarding bird strike mortality specific to Saskatoon, however, all urban areas are a source of building-related bird mortality.
2. Research suggests the most significant way to mitigate bird strikes is through the adoption of bird-friendly measures for mid-rise and tall buildings with a high likelihood of bird strikes.
3. A literature review of other jurisdictions revealed that Toronto's Green Standard building policy contains the most comprehensive measures to mitigate bird strikes. This example could be incorporated into Saskatoon's policy.
4. The High Performance Civic Building Policy Principles include mitigation of bird strikes. Additional bird-friendly measures, including strategies for homes and smaller buildings, can be researched and adopted through the Green Strategy.
5. The City can demonstrate commitment and leadership by including bird-friendly features in civic buildings that have significant exterior glazing; and by offering public awareness campaigns in partnership with the Healthy Yards Program.

Strategic Goals

This report supports the Strategic Goals of Continuous Improvement and Environmental Leadership by encouraging building standards to become more compatible with wildlife movement, thereby supporting biodiversity; and Sustainable Growth by ensuring that future building development, and current building retrofits, are designed with nature in mind.

Background

City Council, at its meeting held on December 12, 2016, considered the 2016 Update to Our Environment: The City of Saskatoon's Environmental Leadership report and resolved, in part:

- "3. That the Administration investigate building guidelines to mitigate bird strikes on glass buildings."

City Council, at its meeting held on January 29, 2018, considered the Principles for a High Performance Civic Building Policy report and resolved, in part:

- “1. That the Administration continue to develop a High Performance Civic Building Policy utilizing the principles outlined in this report; and
2. That until a High Performance Civic Building Policy is approved by City Council, the Administration document how the design and construction of all new City-owned facilities respond to these principles, with the goal of compliance unless a documented lifecycle cost analysis demonstrates this is uneconomic.”

City Council, at its meeting held on May 28, 2018, considered the Green Infrastructure Strategy Update – May 2018 report and resolved, in part:

- “1. That the Green Infrastructure Baseline Inventory Report be received as information; and
2. The draft guiding principles be endorsed.”

Report

In Canada, approximately 25 million birds are killed annually, particularly during spring and fall migration due to bird-window collisions. Municipalities such as Toronto have reported up to 500 bird casualties per high-rise building annually. While there is currently no comprehensive data available on the specific bird strike numbers for Saskatoon, Living Skies Wildlife Rehabilitation reported approximately 150 bird casualties from window collisions in 2017. Given its limited sample size, the Living Skies data is likely a significant underestimation of the scale of bird mortality in Saskatoon. Buildings with locations along bird migration flyways and the South Saskatchewan River are factors that likely contribute to bird collisions.

Saskatchewan is home to 436 species of birds, including at least 31 Species at Risk (SAR) such as Baird’s Sparrow and Piping Plover. An increase in bird mortality from window collisions can decrease a species’ likelihood of long term survival. Changes to building and landscaping standards, however, can decrease the likelihood of bird strikes significantly for high-risk buildings. For example, staff at Beaver Creek Conservation Area reported that once bird-friendly measures were installed on their visitor centre, bird collisions decreased from at least twenty per year to almost zero. Details on types and reasons for glass collisions are included in Attachment 1, Measures to Mitigate Bird Strikes.

As shown in Attachment 1, approximately 90% of bird mortality is a result of collisions with houses. However, researchers have concluded that this is due to a relatively high number of houses in Canada compared to mid/high-rise buildings. Mid/high-rise structures have a disproportionate amount of mortality due to a relatively small number of buildings with high-risk features such as glass and vegetation. Therefore, an effective first step in mitigating bird strikes within Saskatoon is to address building policies pertaining to mid/high-rise buildings, especially civic facilities where the City has a high degree of control. A secondary step is to address high risk community buildings followed by addressing individual residences.

Mitigating Bird Strikes – Best Practices

Various jurisdictions across North America have adopted voluntary or mandatory approaches to make buildings and communities more bird-friendly. Of the nine communities researched, all nine undertook bird strikes mitigation through community partnerships, building guidelines, and lighting guidelines; six undertook a “lead by example” approach; and five implemented public education campaigns. Of these jurisdictions, Toronto’s Green Standard V.3 was the most comprehensive in incorporating bird-friendly guidelines into its building policy.

High Performance Civic Building Policy

Through the development of a High Performance Civic Building Policy, the City will be adopting principles stating that mitigation of bird strikes be “Required Project Planning Considerations”. Administration will incorporate requirements, such as those found in Toronto’s Green Standard V.3, into the High Performance Civic Building Policy.

The three major measures required to mitigate bird strikes to buildings are bird-safe glass, bird-safe lighting, and landscaping to enhance urban bird habitat; all of which can be included in the High Performance Civic Building Policy. Administration will undertake further research and consultation to ensure the requirements used in the Toronto example are appropriate for the Saskatoon context. Bird-friendly mitigation applied through this policy will only apply to Civic buildings.

The City of Saskatoon can lead by example by incorporating bird-friendly features into new or existing buildings, in order to comply with the Green Strategy Principles adopted by Council for the forthcoming policy. Energy Performance Contracting will include bird-friendly mitigation going forward.

Community-Wide Policy Options

Community-wide policy and education are necessary to comprehensively mitigate bird strikes in Saskatoon. This work will be incorporated into the Green Strategy and could also be integrated into the Corridor Growth component of the Plan for Growth.

The Green Strategy Baseline Inventory Report has identified bird strikes as a stress on Saskatoon’s green network. One of the endorsed Green Strategy Principles is Ecological Integrity which involves biodiversity for all varieties of life in the community. As part of the Green Strategy, green spaces with ecological significance will be designated as natural areas, and Natural Area Standards will be developed to include bird-friendly mitigations such as those highlighted in Attachment 2, Additional Municipal Government Options.

Education and Incentive Programs

The use of educational and incentive programs to mitigate the risk of bird collisions, especially during the height of migration (spring and fall), might encourage homeowners to adopt bird-friendly practices. Some preliminary work can be done through the existing Healthy Yards Program, such as development of a bird-friendly education pamphlet and

the incorporation of key messages through existing outreach. Options for a comprehensive program are included in Attachment 2.

Public and/or Stakeholder Involvement

The Meewasin Valley Authority and University of Saskatchewan have similar ongoing development of bird-friendly policies. Administration will collaborate with these and other stakeholders to ensure there is consistency for developers across the community.

Communication Plan

A communication strategy further promoting education and engagement for this project will be developed. The strategy will be civic and community-focused, sharing successes, gaining feedback and educating. As part of the Communications Plan, social media messaging, radio advertisements, and media releases may follow. In addition, communications will be combined with other relevant civic projects, such as High Performance Civic Building Policy, Green Strategy, Healthy Yards Program, and Civic Conservatory, as required.

Policy Implications

A High Performance Civic Building Policy is being developed and will include bird-friendly guidelines as outlined in this report. Further community-wide policy implications will be identified through the Green Strategy.

Financial Implications

Any costs associated with developing bird-friendly guidelines and policies will be incorporated into the budgets of identified projects. Such projects include the High Performance Civic Building Policy, the Green Strategy and Natural Area Standards projects, and the Healthy Yards Program, for which staff and resourcing have already been identified. Prioritization of any initiatives faster than timelines described in this report, would require additional staff and resources which would be presented at future business plan and budget deliberations.

Environmental Implications

While there is a lack of data regarding bird strike and bird mortality rates locally, it is estimated that bird strikes in Canada can kill up to 500 birds per high-rise building annually. The identification of high-risk buildings, and the addition of bird friendly measures at those structures will help decrease this mortality, thereby creating a more biodiverse city. Through the development of the Green Strategy, additional monitoring programs can be developed, including more comprehensive indicators of bird diversity.

Other Considerations/Implications

There are no options, privacy, safety, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

A High Performance Civic Building Policy is anticipated to be submitted to the Standing Policy Committee on Environment, Utilities, and Corporate Services in 2019.

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The Green Strategy is currently in Phase 2, with an implementation plan scheduled for development in 2020. An update report containing community-wide policy and education will be provided in Quarter 3 of 2019.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Measures to Mitigate Bird Strikes
2. Additional Municipal Government Options

Report Approval

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