**INTRODUCTION**

Bird window-strikes are one of the most significant causes of bird mortality. Using the approximation that one building results in approximately 1–10 avian deaths per year, a speculative estimate of bird mortality in the United States predicts anywhere from 100 million–1 billion avian deaths annually due to bird-window collisions.

There are many species-specific effects, environmental effects and building characteristics that are thought to contribute to window-strike fatalities for birds. These building characteristics include window size or area of the glass, although a more significant building characteristic correlated frequency of window-strike fatalities with the relative area of windows in comparison to the rest of the façade of a building.

In this study, five buildings on the campus of Butler University were characterized for window area and relative percentage of glass. The bridges connecting Jordan to Gallahue, Gallahue to Holcomb, and Holcomb to Pharmacy were also characterized for window area and relative percentage of glass.

**METHODS**

Buildings Characterized
- Fairbanks Center
- Gallahue Hall
- Holcomb Building
- Pharmacy Building
- Health and Recreation Center (HRC)

Character Analysis
- Height of the building
- Size and area of windows
- Relative percentage of glass
- Average aspect ratio of the windows
- Direction the façade faced (N/S/E/W)

**RESULTS**

Relative Percentage of Glass

<table>
<thead>
<tr>
<th></th>
<th>Fairbanks</th>
<th>Gallahue</th>
<th>Holcomb</th>
<th>Pharmacy</th>
<th>HRC Bridge</th>
<th>J-G Bridge</th>
<th>G-H Bridge</th>
<th>H-P Bridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>91.79</td>
<td>19.16</td>
<td>26.67</td>
<td>15.84</td>
<td>34.82</td>
<td>37.5</td>
<td>37.5</td>
<td></td>
</tr>
<tr>
<td>South</td>
<td>30.34</td>
<td>26.51</td>
<td>22.14</td>
<td>15.10</td>
<td>31.34</td>
<td>37.5</td>
<td>37.5</td>
<td></td>
</tr>
<tr>
<td>East</td>
<td>44.87</td>
<td>19.81</td>
<td>-</td>
<td>19.30</td>
<td>37.5</td>
<td>37.5</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>West</td>
<td>84.25</td>
<td>29.29</td>
<td>-</td>
<td>7.72</td>
<td>10.74</td>
<td>37.5</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Bolded percentages indicate more than one window-strike.*

*This data does not include Fairbanks or the HRC as no bird collision data has been collected.

**CONCLUSIONS:**

- The highest frequencies of window-strike fatalities occurred at facades with greater than 25% glass.
- Overall, there were more fatalities on the North and West facades of all the buildings combined.
- Buildings with windows from which the other side can be seen (Gallahue and bridges) have a higher frequency of window-strike fatalities.

**FUTURE GOALS:**

- What aspect of the buildings is the most significant in window-strike fatalities?
- Based on these results, which facades do we predict will be hit most frequently?
- How can we modify building aspects to minimize window-strike fatalities?