



# **Bird-Friendly Building Design Discussion**

## **PBZE Committee Meeting**

**Planning, Building & Development  
June 28, 2023**

# Agenda

- **Initiative Timeline**
- **Bird Population Decline**
- **Bird Strikes in the Built Environment**
- **Mitigation Strategies (design & materials)**
- **Co-benefits of Bird-Friendly Building Design**

# Timeline



Research & Engagement  
with Local Experts

PWPT Committee  
Discussion & Direction  
on Regulatory Approach

2020 → 2021

**PBZE Discussion &  
Direction, Finalization of  
Regulatory Approach**

*Summer 2023*

Committee and County Board  
Review of Proposed Ordinance

*TBD*



Enabling Legislation Proposal  
Included in Lake County State  
Legislative Program,

SB1997 Passes Both Chambers  
of the IL General Assembly

2022 → 2023

**Anticipated Governor  
Signature (SB1997)**

*Summer 2023*

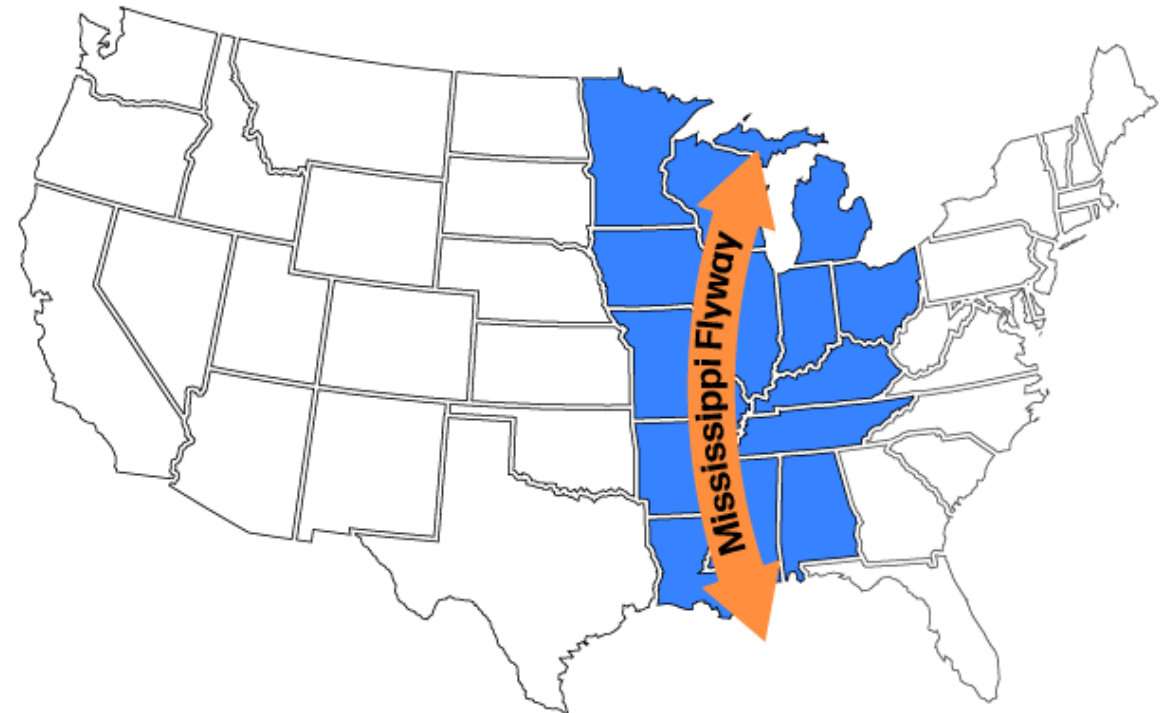
# Background

- **Bird Population Decline**
- **Bird Strikes in the Built Environment**

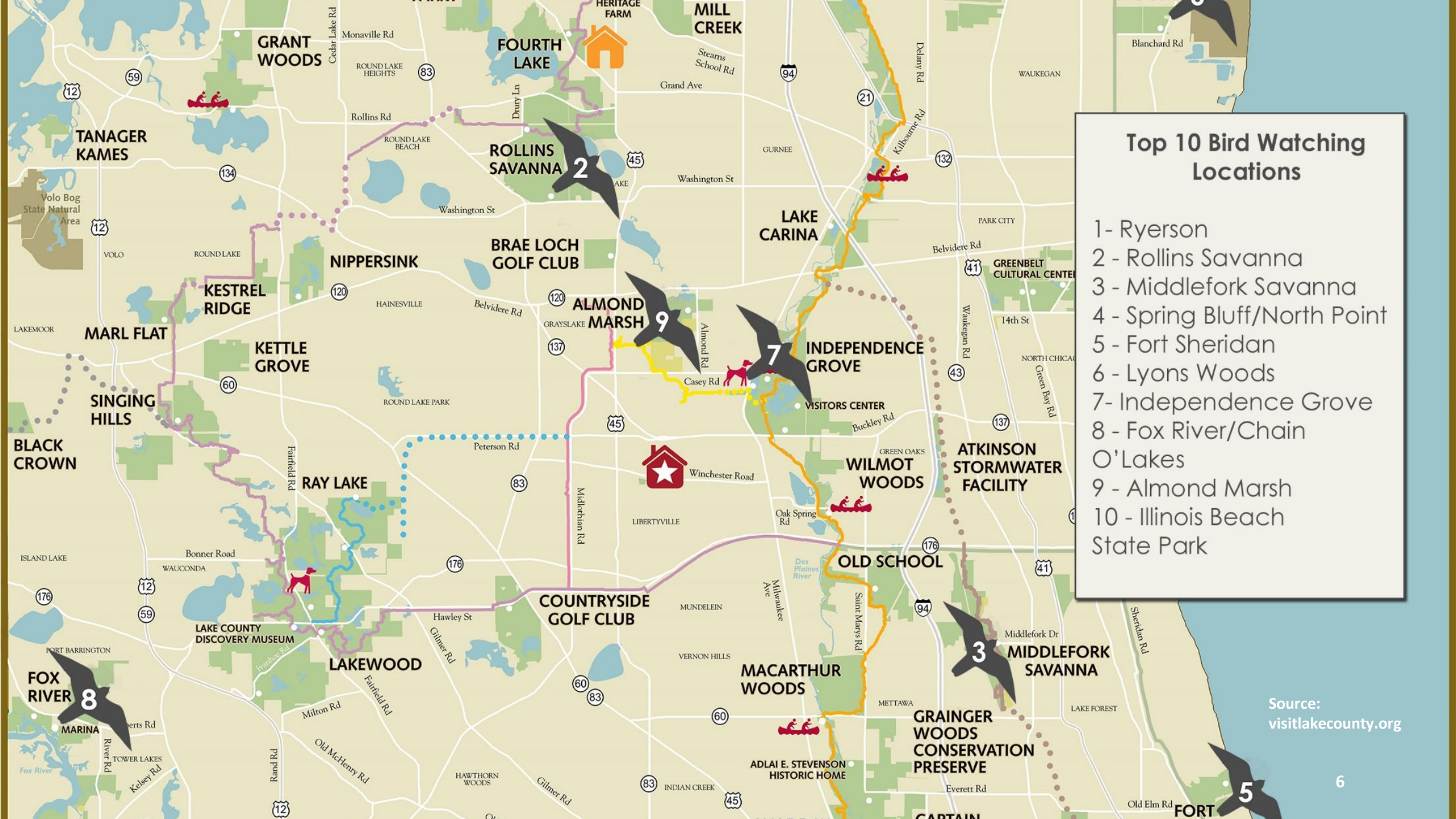


# Migratory Path

- The Mississippi Flyway sees 325 species, incl. 40% of shorebirds<sup>[1]</sup>
- About 5 million individual birds<sup>[1]</sup>
- In Lake County, nearly 200 inland lakes and the Des Plaines River Greenway provide migratory stops<sup>[2]</sup>



- <sup>[1]</sup> National Audubon Society.
- <sup>[2]</sup> Lake County Forest Preserves.



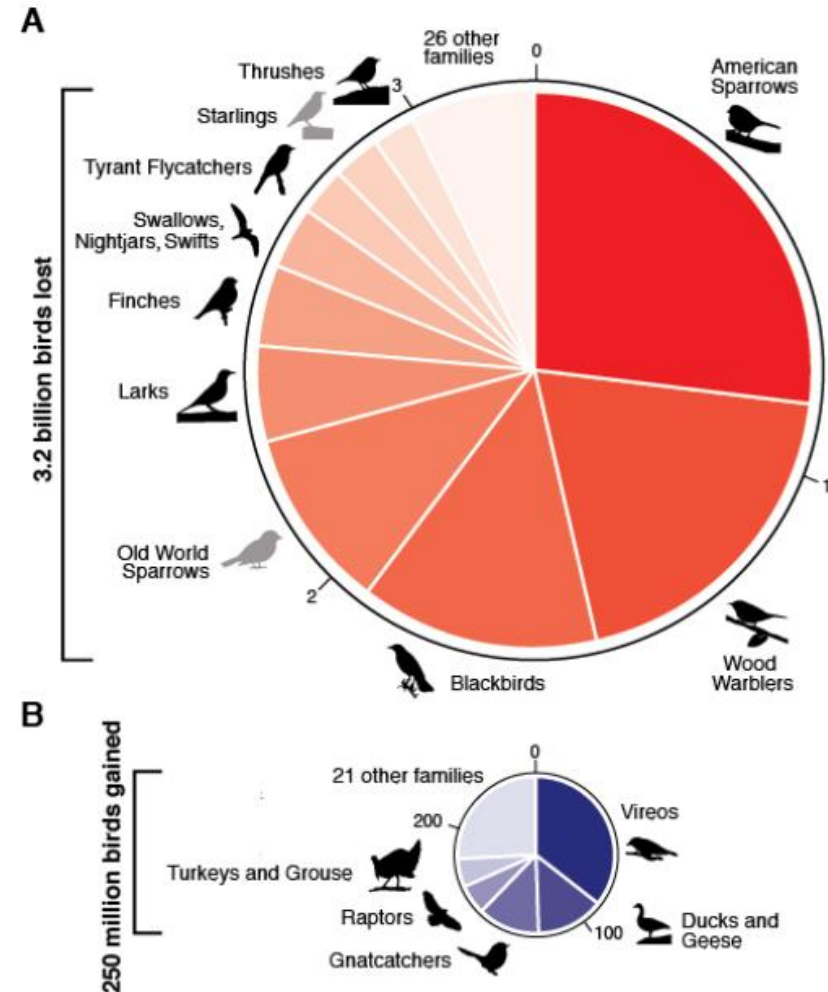
- ### Top 10 Bird Watching Locations
- 1 - Ryerson
  - 2 - Rollins Savanna
  - 3 - Middlefork Savanna
  - 4 - Spring Bluff/North Point
  - 5 - Fort Sheridan
  - 6 - Lyons Woods
  - 7 - Independence Grove
  - 8 - Fox River/Chain O'Lakes
  - 9 - Almond Marsh
  - 10 - Illinois Beach State Park

Source: [visitlakecounty.org](http://visitlakecounty.org)

# Bird Population Decline

- Est. 29% of birds (3 billion) lost since 1970 [1]
- Combined threats
  1. Habitat loss
  2. Cats
  3. Glass
- Species declining: Songbirds
- Species improving: Waterfowl, game birds

[1] Rosenberg, et al., 2019, *Decline of the North American Avifauna*, Science.

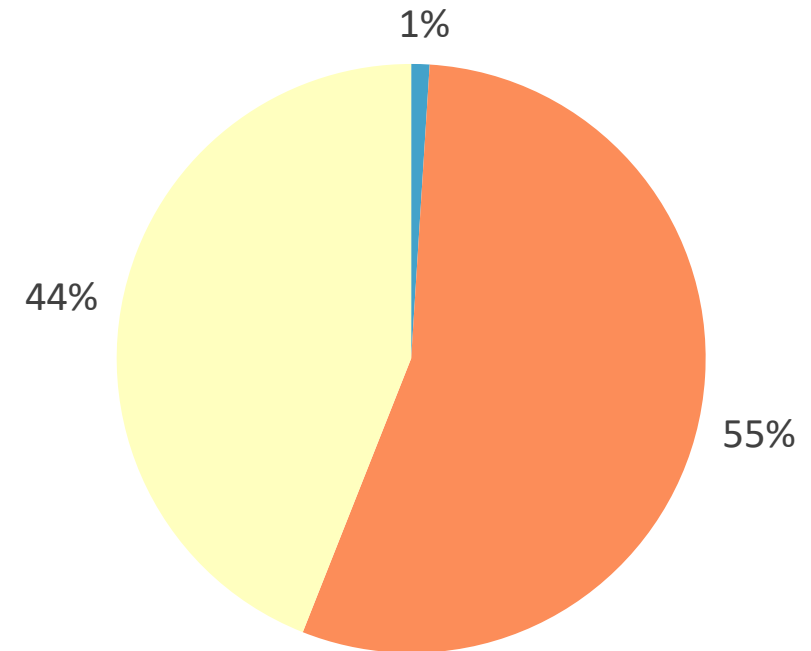


# Architectural Glass Strikes

- Glass strikes kill an est. 599 m. birds annually (2-9% of pop.) <sup>[1]</sup>
- Kills healthy and fit individuals
- Most affected:
  - Hummingbirds
  - Songbirds (warblers, finches, etc.)
  - Shorebirds
- Least affected:
  - Game birds
  - Waterfowl
  - Corvids (crows, ravens, etc.)

<sup>[1]</sup> Loss, et al., 2014, *Bird–building collisions in the United States*, The Condor.

Annual Bird Mortality by Building Type



■ High-rises ■ Low-rise/non-SFD ■ SFD

\*Low-rise includes low-rise residential, commercial, & other non-single family dwelling uses.



# Mitigation Strategies

- **Treatments**
- **Bird-friendly Glass and Features**
- **Materials**
  - **Film and Tape**
  - **Fritted Glass**
  - **UV-coated**

# Treatments

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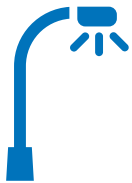
**Architectural Glass – Reduce the amount, use bird-friendly glass**



**Location – Proximity to natural lands, farms, or green roofs**



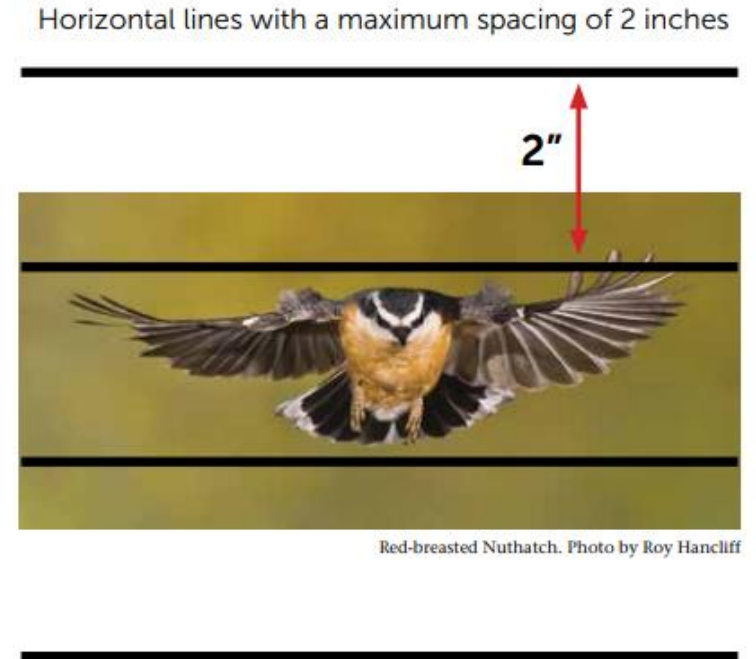
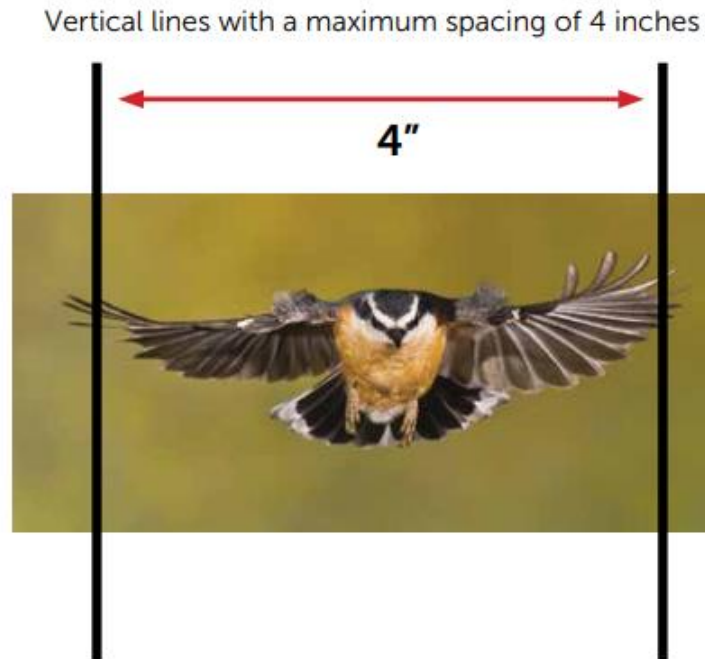
**Height – Focus on first 40 feet or tree line**



**Lights – Reduce light pollution through shielding**

# Bird-Friendly Glass & Features

- Reduce glass area on building
- Temporary Solutions
  - Tape
  - Films
- Permanent Solutions
  - Fritted
  - UV Coating
  - Screens or nets
  - Other architectural features



Source: American Bird Conservancy

# Materials – Film and Tape



# Materials – Fritted Glass



# Materials – UV Coating



# Materials – UV Coating (cont.)



What birds see



What we see

Bird-friendly UV-blocked windows  
Source: ornilux.com

# Co-Benefits

- **Co-Benefits Summary**
- **Case Study**



# Co-Benefits Summary

- Less glass = more energy efficiency
- HVAC experts recommend no more than 40% glass
- UV block and shading reflects sun's energy and heat
- UV coating helps protect furniture, flooring, and paint

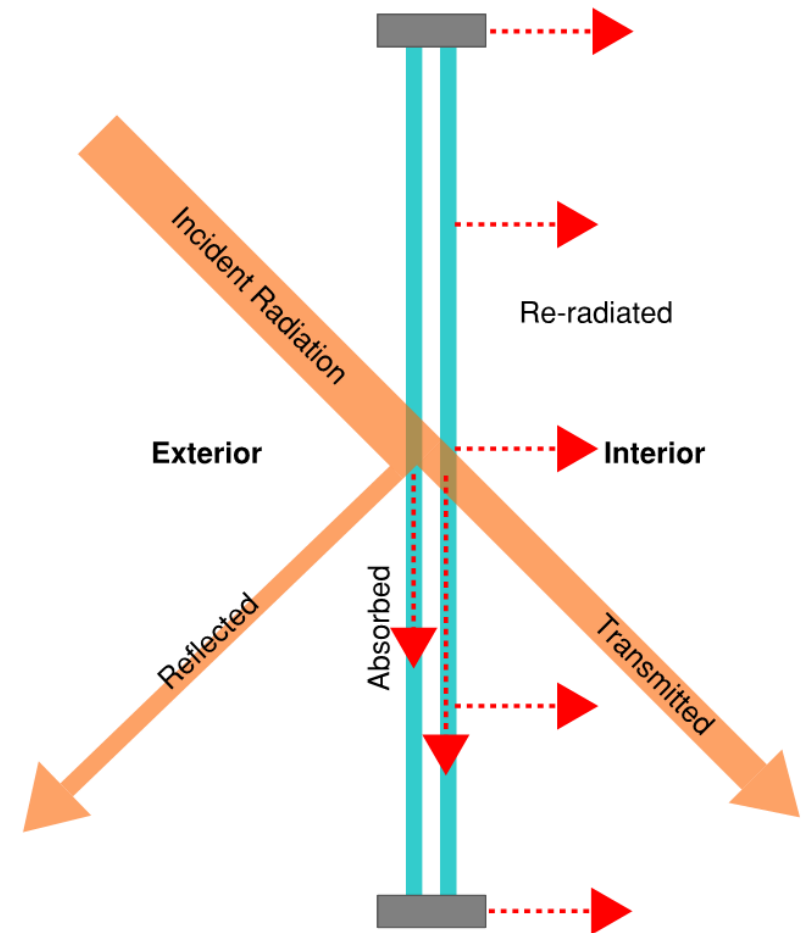


Illustration of solar gain. Source: [wikipedia.com](https://www.wikipedia.com)

# Co-Benefits Case Study

## *Javits Center, New York*

- Convention center along Hudson River
- Renovated in 2014
- 90% reduction in bird strike fatalities
- 25% reduction in energy use



# Next Steps





**Questions**