Credit Valley Conservation
inspired by nature

Bird-friendly Buildings

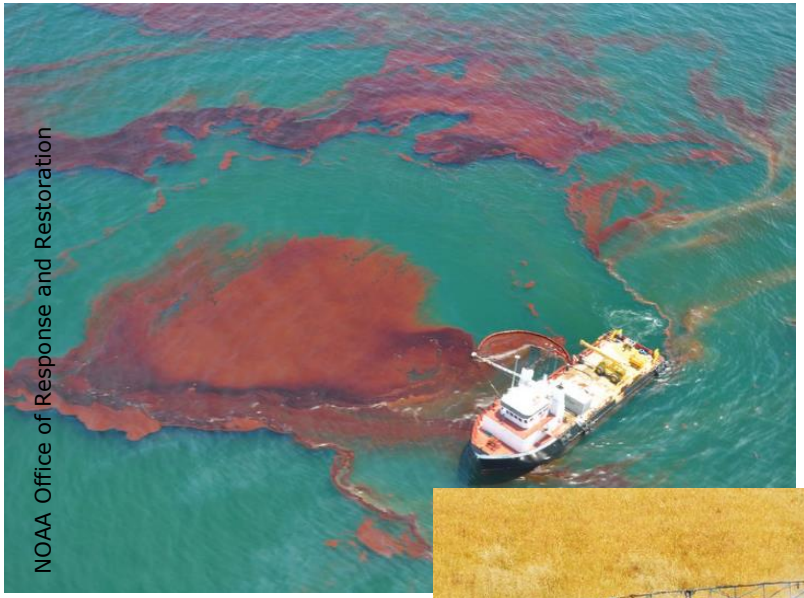
October 27, 2022

STEP Webinar

Christina Kovacs, CVC
Christina.Kovacs@cvc.ca

Becoming aware of the issue

Causes of bird mortality



Bird-window collisions

- One of the top causes of bird mortality, in terms of numbers
- Estimations of 25 million birds per year in Canada (Machtans et al., 2013), worldwide issue

Figure: Partners in Flight

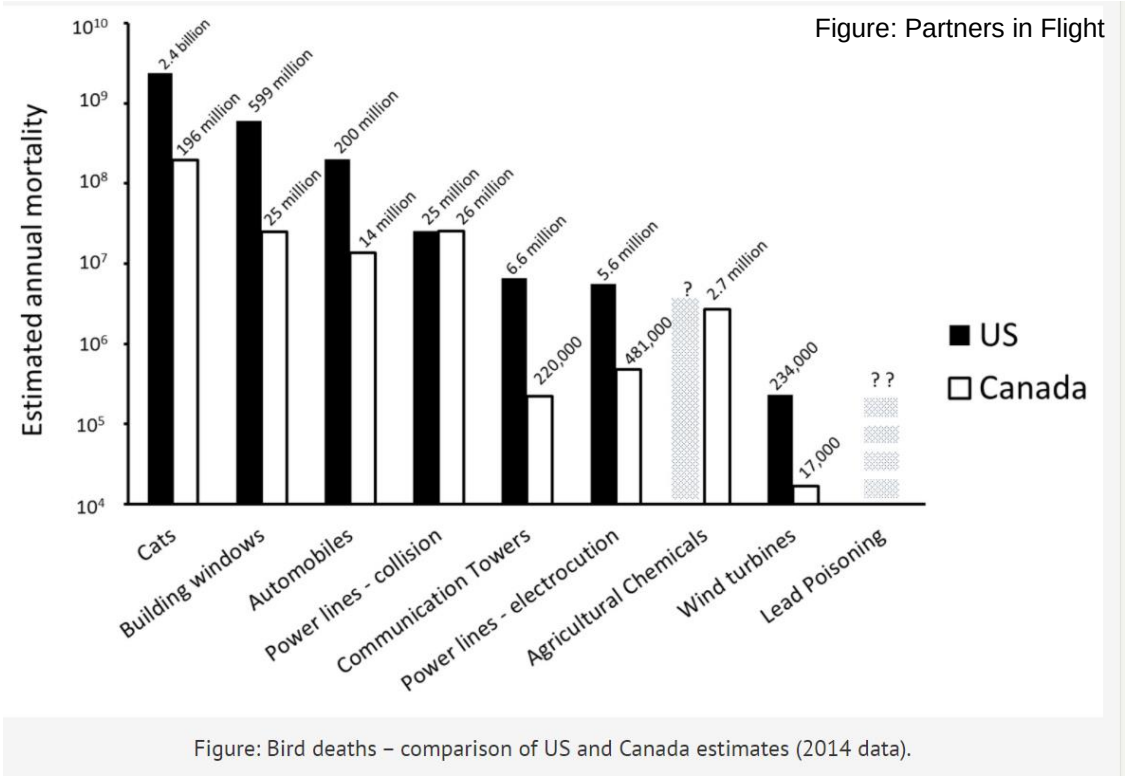


Figure: Bird deaths – comparison of US and Canada estimates (2014 data).

Where do most collisions occur?

High-rise building

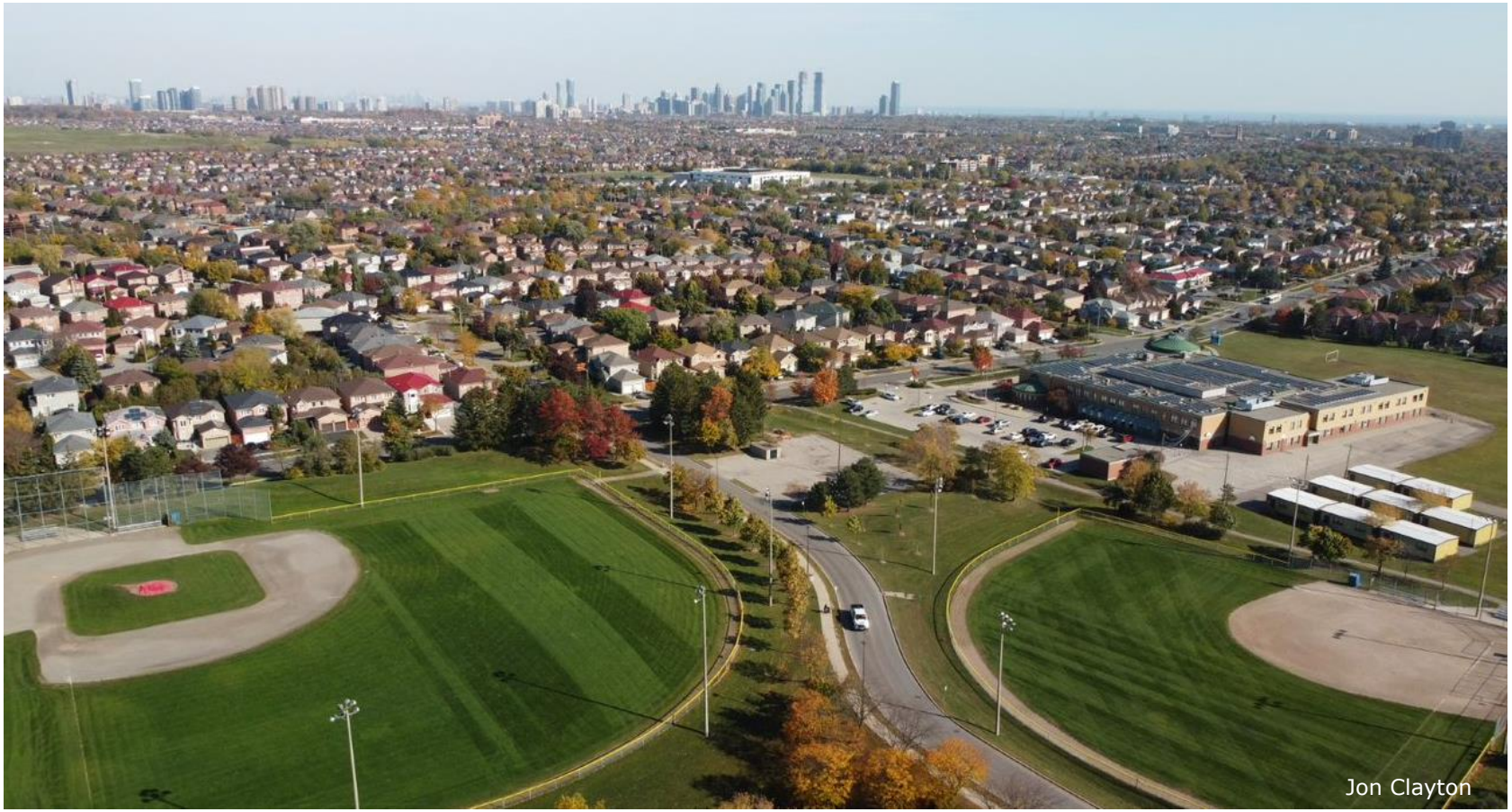
Low to mid-rise building

Family home

Where do most collisions occur?

- Most collisions occur at homes – not high-rise buildings
- Far more homes than other types of buildings

Where do most collisions occur?



Value of birds

- Seed dispersal and pollination
- Pest control
- Scavengers
- Food for other wildlife

Value of birds

- Birdwatching
- Purchase of equipment, field trips
- Bird feeders and food

Why do birds collide with windows?

- Not exclusive to birds
- Humans can’t see windows either!
- Humans better at picking up on visual cues

Why do birds collide with windows?

- Birds evolved to use natural habitat – glass is not natural!
- Birds fly through tight spaces

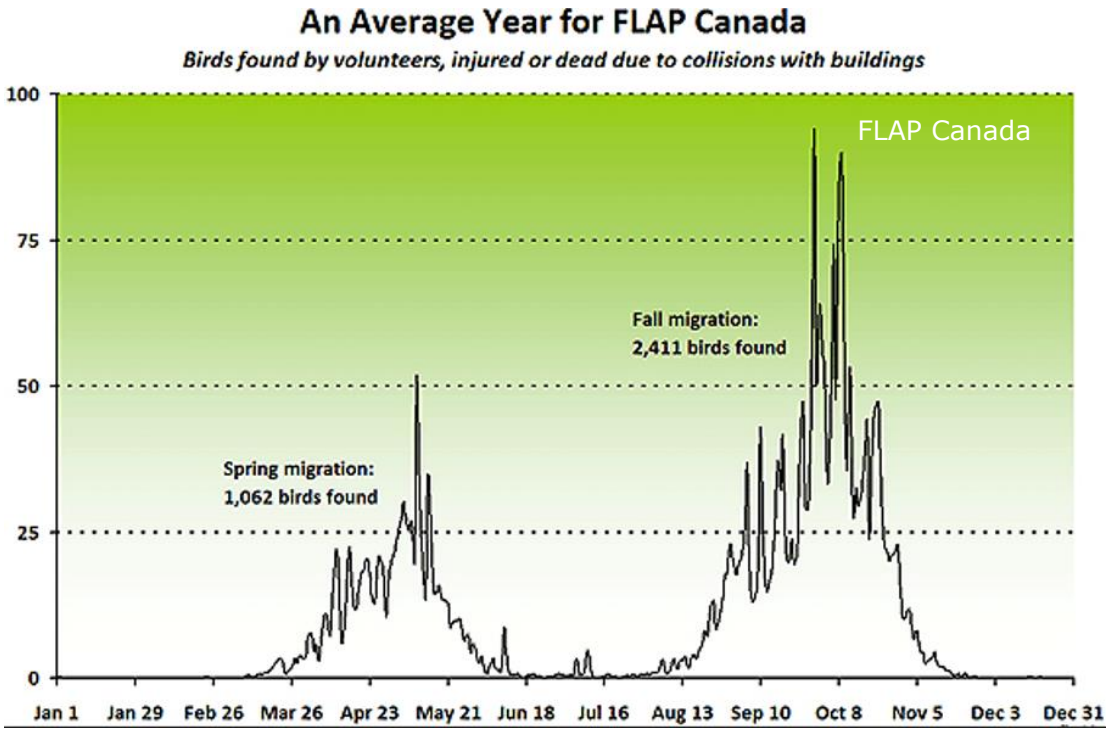
Why do birds collide with windows?

- Most birds have eyes on side of head
- Humans' eyes on front of head – better depth perception

Factors influencing bird-window collisions

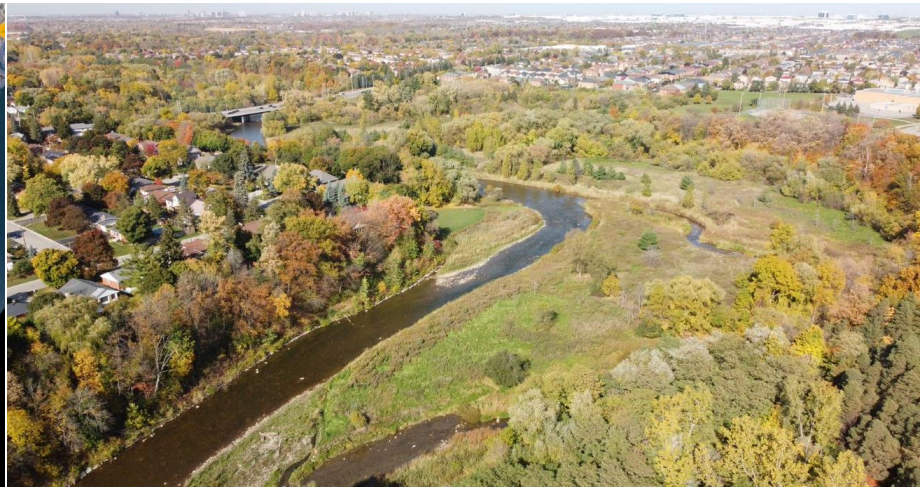
Time of year

- Bird-window collisions happen all year, but increase during the spring and fall migration



Landscape features

- Naturalized habitat provides food and cover
- Migration corridors and stopover areas have more birds using them



Weather conditions

- Many birds rely on constellations to navigate at night
- Fog, rain, and heavy clouds force birds down into the landscape

Bird-friendly buildings

Nighttime and daytime issue

What is a bird-friendly building?

- **Bird-friendly building:** a new or retrofitted building that minimizes bird-window collisions.
- Accomplished through various ways such as using visual deterrents on windows, minimizing hazardous design features, using appropriate nighttime lighting.

Nighttime issue

- Upturned lighting confuses birds while they are migrating

Daytime issue

Reflections

Transparency – leads to see-through effect

Reflections

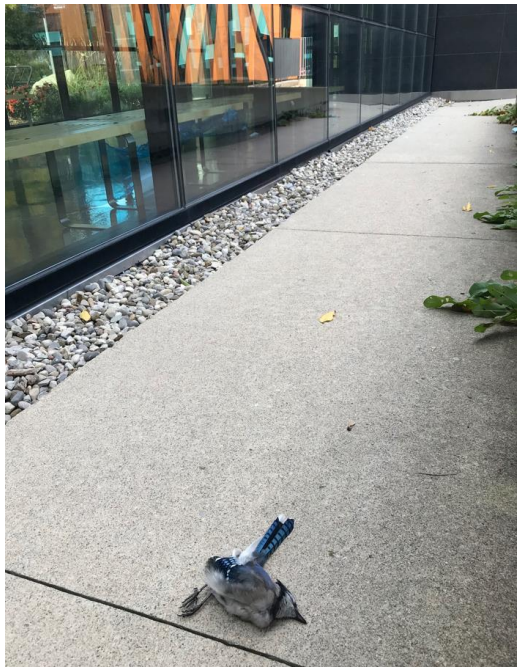
- Window conditions change depending on time of day, weather conditions

See-through effect: glass corner

- Vegetation seen through glass corners

See-through effect: glass corridor

- Vegetation seen through glass corridor
- Also known as linkways, parallel glass



What DOES NOT work

Birds of prey decoys

- Belief that birds fear birds of prey
- Birds know the decoys are not real

Window decals (applied like this)

- Most of glass is left untreated
- Birds fly around decals

Window decals

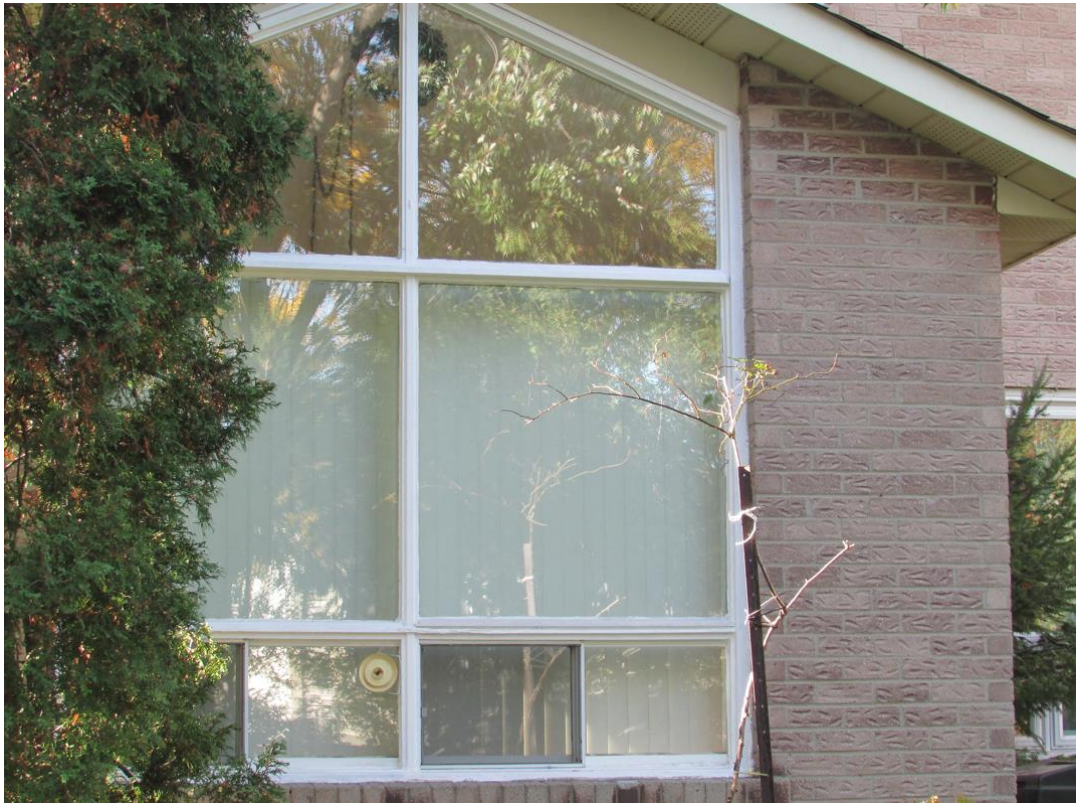
- Would have to apply decals tightly together

Tinted windows

- Reflections still visible, see-through conditions still exist

Closed interior curtains, blinds, screens

- Reflections still visible



What DOES work

Treatments of windows

1. Space deterrents no more than 2 inches apart
2. Apply deterrents to outside of window (surface 1)
3. Apply deterrents to entire window surface
4. Ensure deterrents have visual contrast against windows
5. Apply deterrents to top of tree canopy or 16 m, whichever is higher

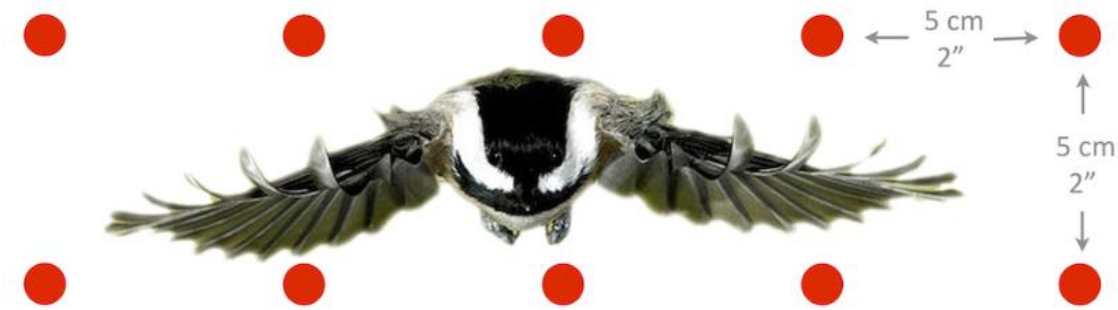
Recommendations from CSA's Bird-friendly Building Design

https://birdsafe.ca/csa-bfbd/

https://www.csagroup.org/store/product/CSA%20A460:19/

1. Space deterrents no more than 2 inches apart

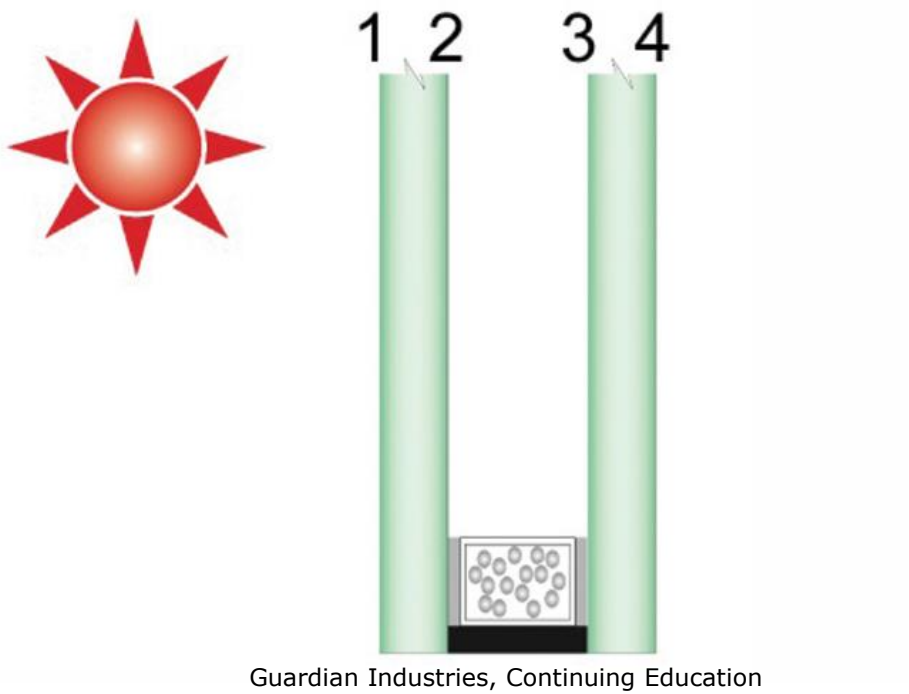
- Creates tight spacing to deter birds from flying through it
- 2 inch spacing to deter smaller birds – hummingbirds, kinglets
- Known as 2 x 2 rule



Safe Wings Ottawa

2. Apply deterrents to outside of window (surface 1)

- Deterrents break up the reflections on surface 1



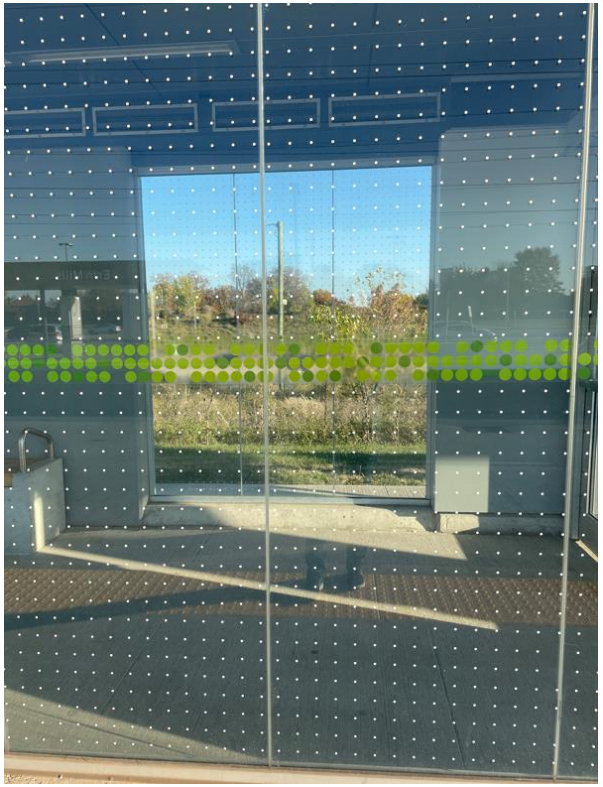
Guardian Industries, Continuing Education Center Architecture and Construction

3. Apply deterrents to entire window surface

- Untreated glass would invite birds to try to fly through

4. Ensure deterrents have visual contrast against window

- Deterrents stand out to alert birds

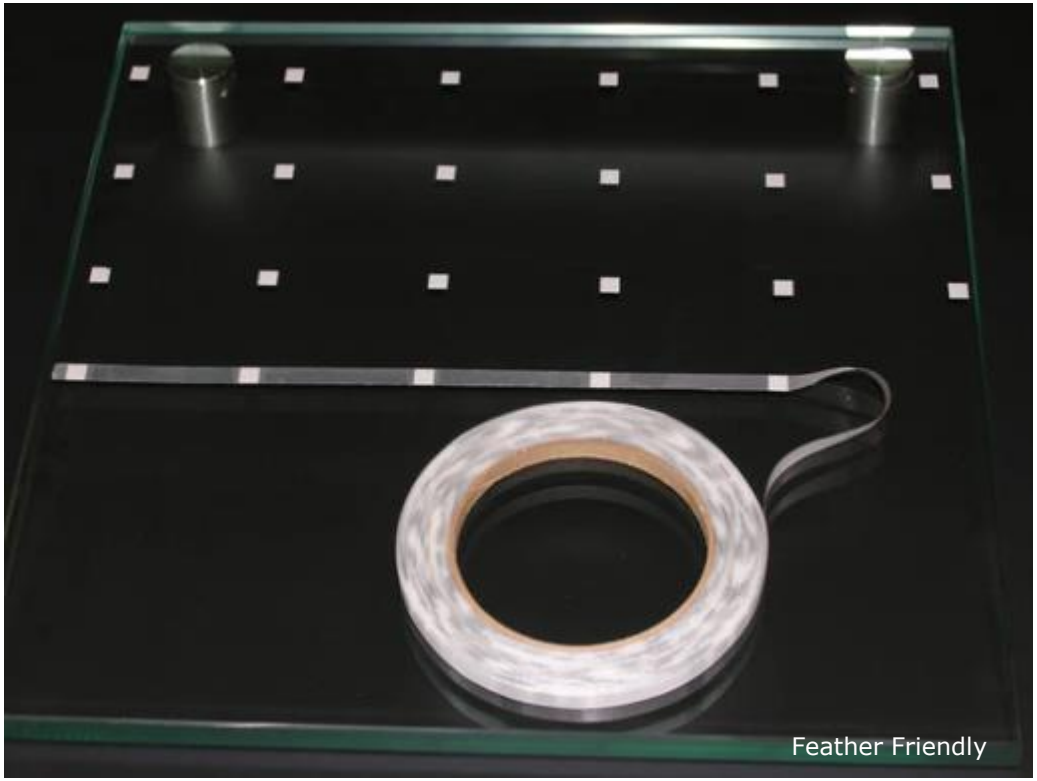


5. Apply deterrents to top of tree canopy or 16 m, whichever is higher

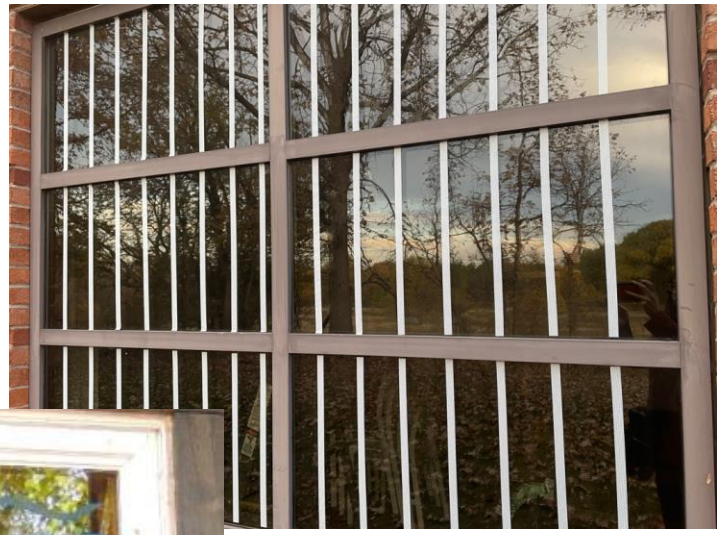
- Treat problem zone on buildings where there is vegetation
- Do not have to treat entire building if building is tall

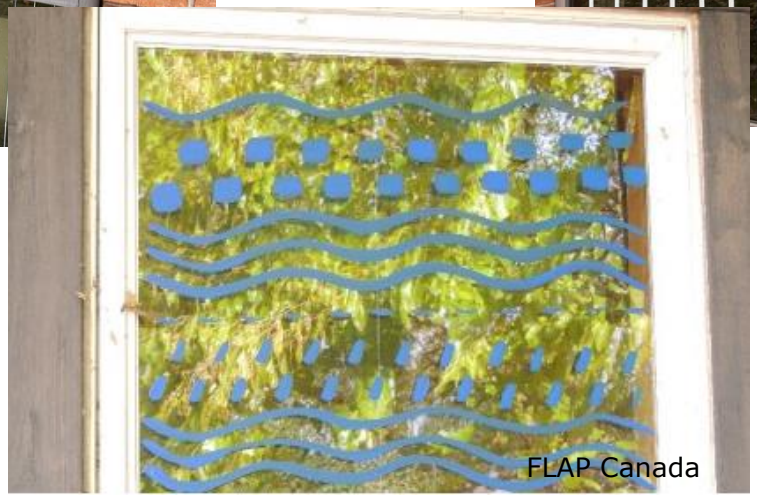
DIY markers

- Apply dots to windows



Oil-based markers, tape, tempera paint





Insect screens

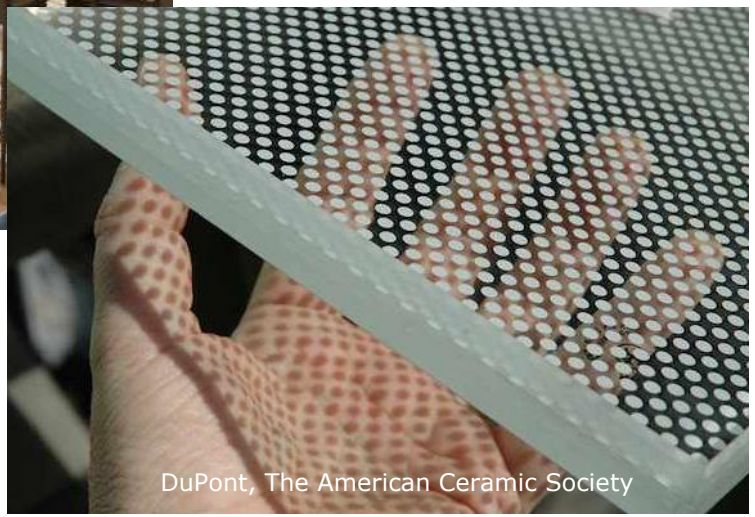
- If birds hit, the screen acts as a cushion
- Insect screens must be on the outside of the window

Window films

- Opaque exterior, but can see through window from inside

Acid etching, fritted glass

FLAP Canada



DuPont, The American Ceramic Society

Bird feeder placement

- Place bird feeder 0.5 m or less from window

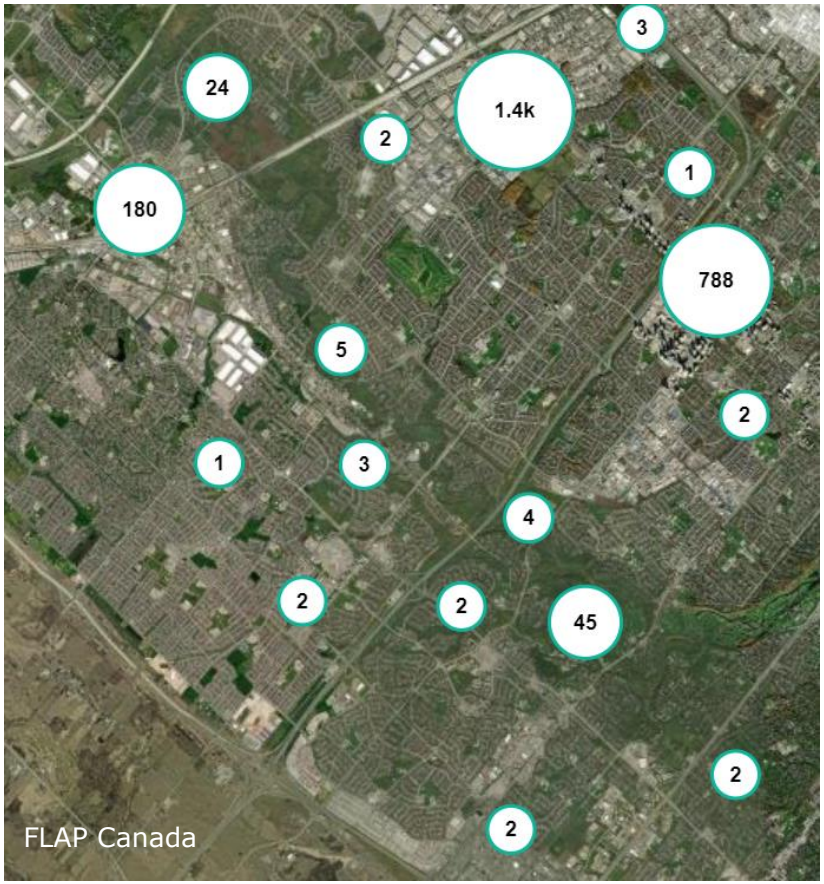
Bird-friendly Buildings Project

Bird-friendly Buildings Project

- **Purpose:** to identify hotspot areas for window collisions to inform our municipal partners and CVC programs
- Create tools that help identify those areas

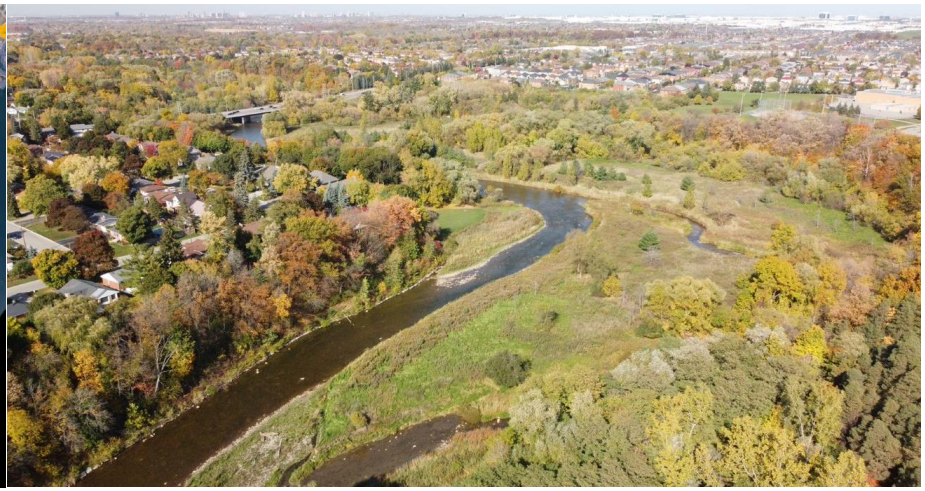
Bird-window collisions location layer

- Provides baseline data where bird-window collisions are occurring
- Can identify problematic areas



Landscape features layer

- Identify areas where bird density will be higher



Progress being made to reduce bird-window collisions

Policy

- More municipalities adopting mandatory and voluntary bird-friendly design in new construction

Canadian cities

- Toronto, ON
- Markham, ON
- Ajax, ON
- Mississauga, ON
- Ottawa, ON
- Calgary, AB
- Vancouver, BC

US cities

- New York City, NY
- San Francisco, CA
- Chicago, IL
- Sunnyvale, CA
- San Jose, CA
- Barrington, IL
- Portland, OR
- Oakland, CA

Bird-friendly City program

- Certification program for municipalities
- Certification includes reducing threats, protecting and restoring habitat, climate resiliency, community education
- Threat reduction includes window collisions
- Certified cities/towns include Toronto, Halton Hills, London, Burlington & Hamilton, Peterborough

Summary

- Bird-window collisions a top threat to birds, problem is widespread
- Birds provide many services and enjoyment to us
- Solutions are available, and it is easy to solve
- Many solutions already being implemented

Let’s work together to save the birds that so many of us enjoy!

questions?

inspired by nature