

# A Successful Mitigation and Monitoring Project to Address Bird Window Collisions at the City of Portland's Columbia Building



**Mary Coolidge**  
Biologist, BirdSafe  
and Non-Lead Campaign

**David Helzer**  
Terrestrial Biologist  
**Jade Ashcroft**  
Avian Biologist



Urban Ecology Research Consortium  
2021 Annual Symposium



ENVIRONMENTAL SERVICES  
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# Collisions

- Est 355-988 M birds die hitting windows every year in US alone  
–*Loss et al 2014*
- Loss of nearly 30% of mig birds since 1970 –*Rosenberg et al 2019*
- 51% collisions occur at low rise commercial buildings
- 49% collisions occur at 1-3 residential buildings





# The Columbia Building at the Columbia Blvd Wastewater Treatment Plant





## Questions to answer:

1. Frequency of bird collisions
2. Species involved in window collisions
3. Location of collisions (e.g., are there hotspots?)
4. Seasonality or year-round issue



Project Timeline	Project Element
Feb 2015 - Jan 2016	Joint BES/Portland Audubon study to characterize scope and scale of issue.
Oct 2017	Retrofit: installation of Solyx collision reduction window film on 3424 square feet of glass.
Sept 2018 - Sept 2019	Joint BES/Portland Audubon study on effectiveness of treatment.

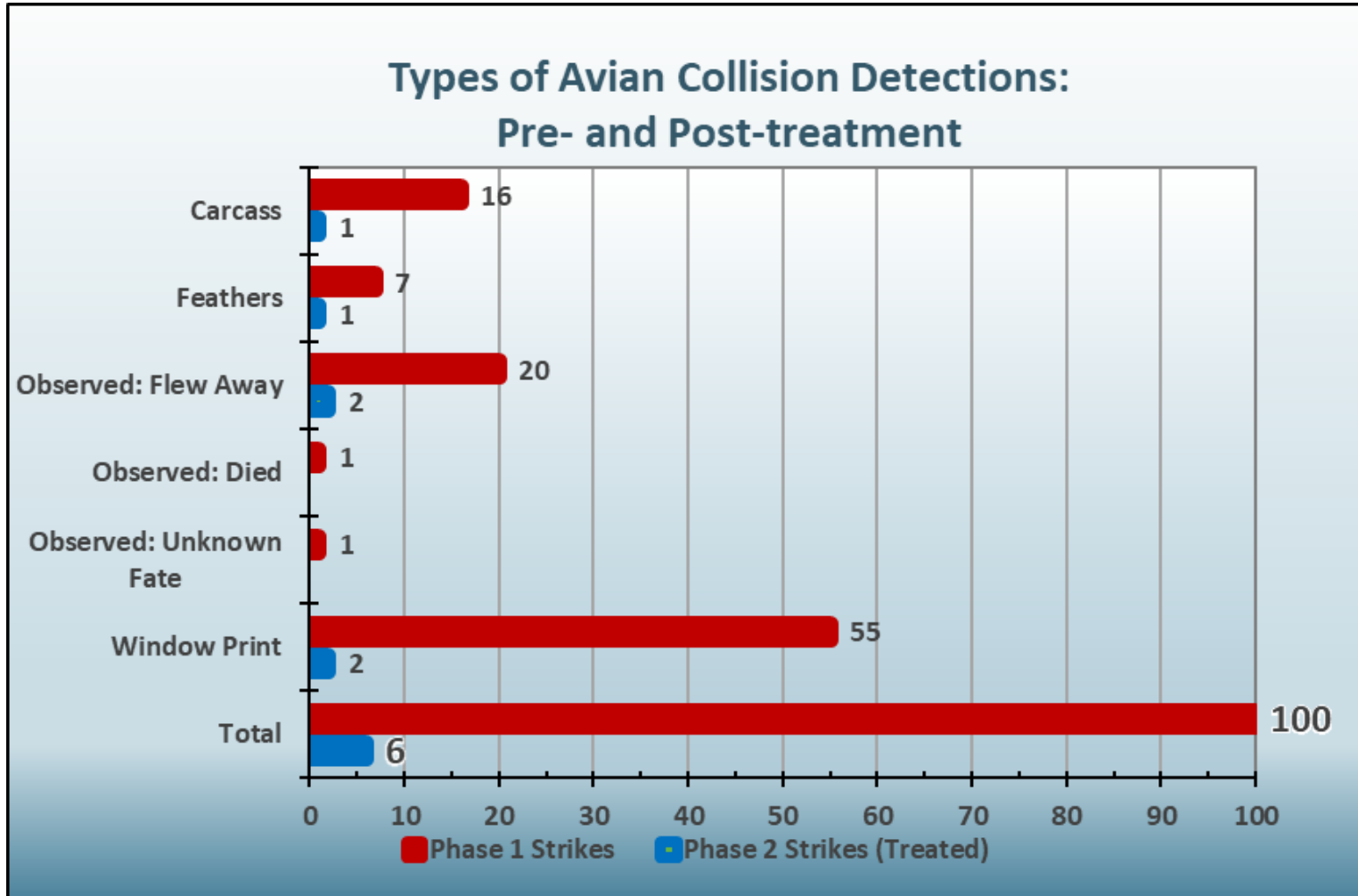
# Window film installation: Solyx SX-BSFH



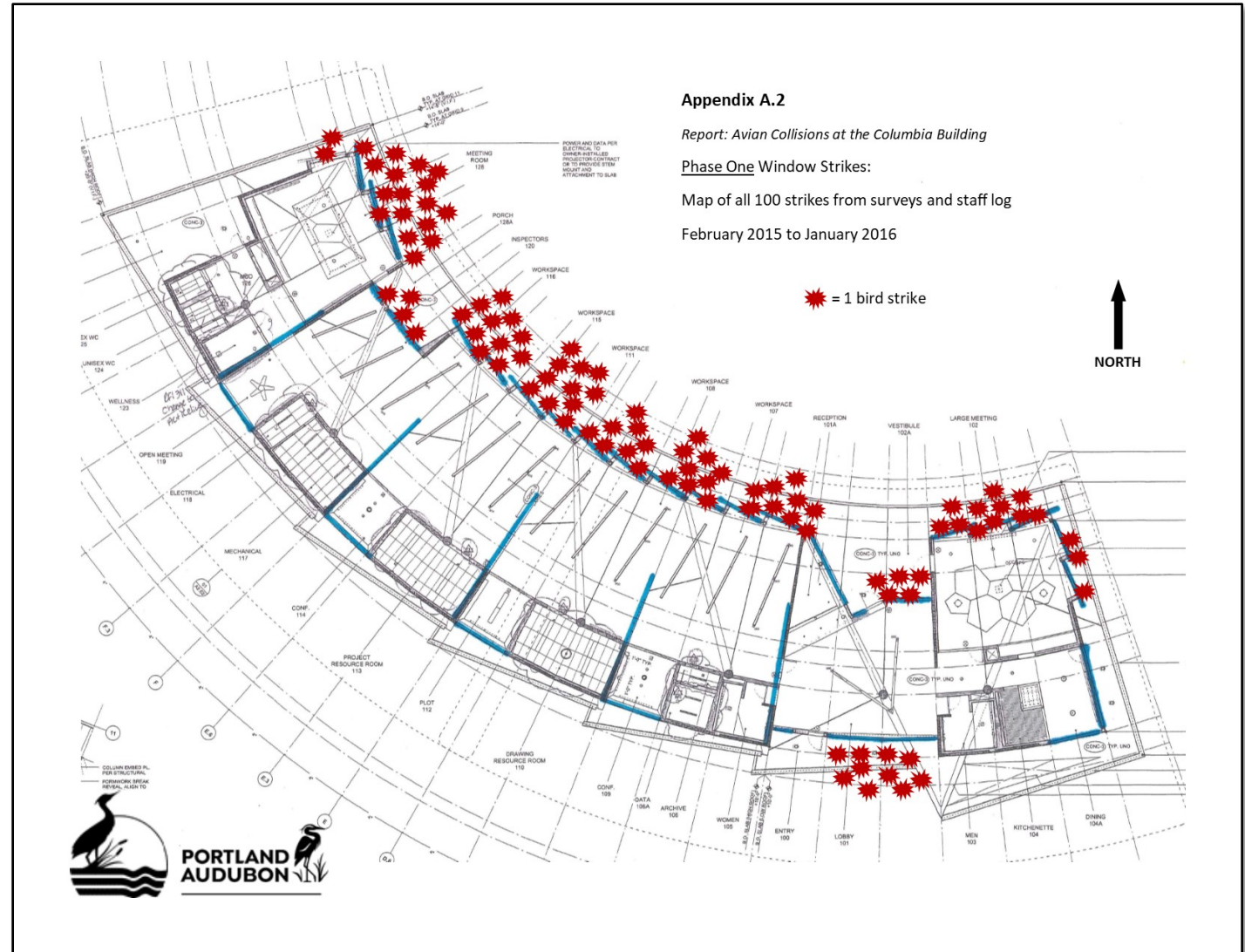
3,424 square foot retrofit  
\$8.34/square foot  
\$28,544 total cost



# Phase one and phase two collisions by type of detection (pre & post-treatment)

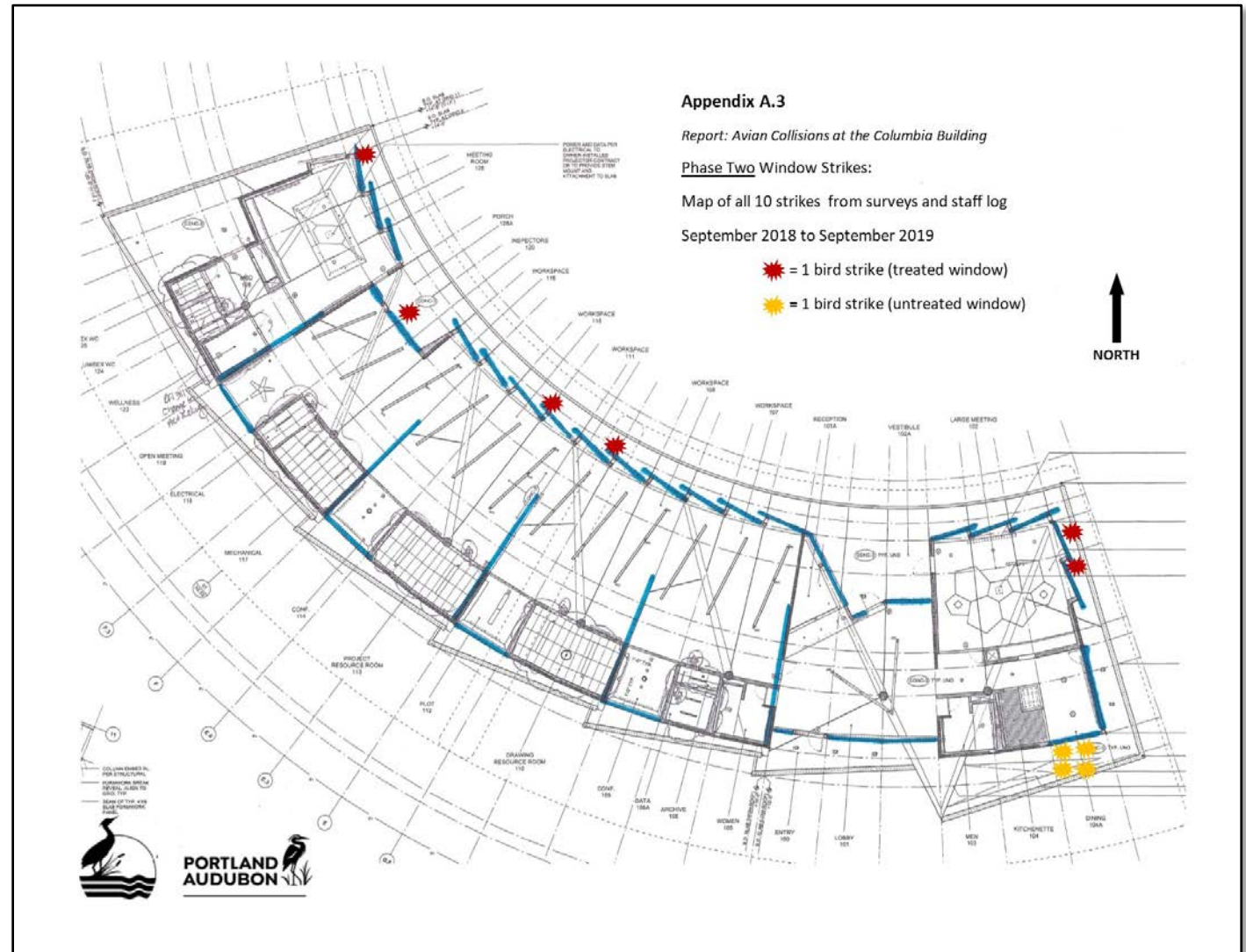


# Building Plan View Pre-treatment Collision Locations



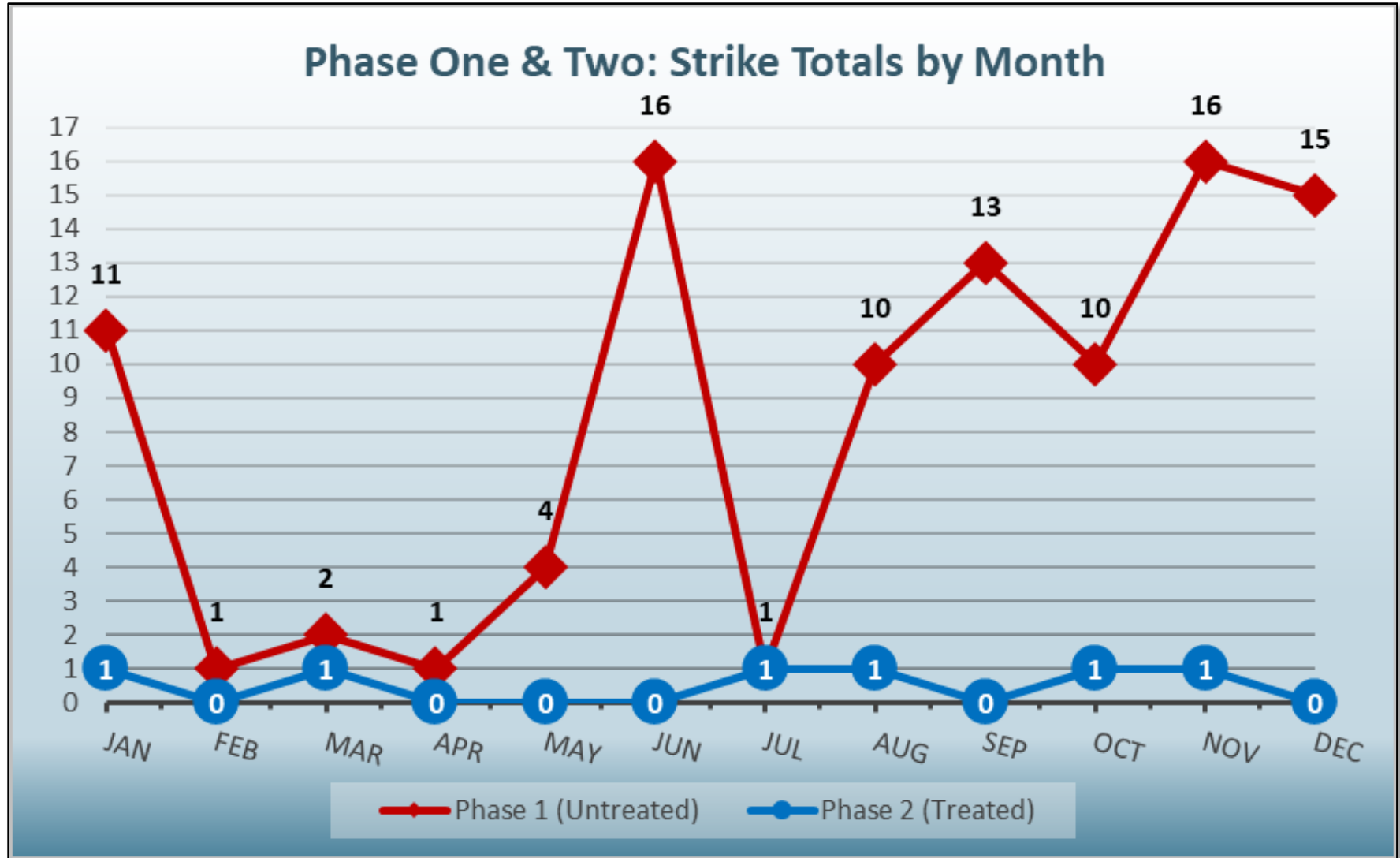


# Building Plan View Post-treatment Collision Locations





# Phase One and Two collisions by month





# Phase one and phase two collision totals by species

## Adjusted collision totals:

25%-50% of collisions go undetected

Phase 1 adjusted total=125-150 collisions

Phase 2 adjusted total=7.5-9 collisions

## Mortality Rate Estimates:

51.7-76.5% of collisions result in death

Phase 1 mortality rate=65-115 fatalities

Phase 2 mortality rate= 4-7 fatalities

Species	Latin name	Phase One (Pre-treatment)	Phase 2 Total (Post-treatment)
unknown bird	Aves spp.	75	4
unknown duck	Anatidae spp.	0	1
American robin	Turdus migratorius	4	0
California scrub-jay	Aphelocoma californica	0	1
yellow-rumped warbler	Setophaga coronata	3	0
American crow	Corvus brachyrhynchos	3	0
European starling	Sturnus vulgaris	3	0
unknown hummingbird	Trochilidae spp.	2	0
cedar waxwing	Bombycilla cedrorum	2	0
Anna's hummingbird	Calypte anna	1	0
common yellowthroat	Geothlypis trichas	1	0
Bewick's wren	Thryomanes bewickii	1	0
hermit thrush	Catharus guttatus	1	0
varied thrush	Ixoreus naevius	1	0
brown-headed cowbird	Geothlypis trichas	1	0
song sparrow	Melospiza melodia	1	0
Northern flicker	Colaptes auratus	1	0
<b>Total</b>		<b>100</b>	<b>6</b>





# City of Portland Policies for Bird Safe Design

- 2003 Portland became a USFWS Urban Bird Treaty City
- 2012 *Resource Guide to Bird Friendly Building Design* and City commits to consider bird friendly design for city plans and polices
- 2015 Bird Friendly design incorporated into City's Green Building Policy for City buildings
- 2018 Bird Safe Standard added to Central City Plan

