# Seattle Bird Collision Monitoring Project

## 2024 Summary

The Seattle Bird Window Collision Monitoring Project is now entering its fourth year. Since the pilot season in Fall 2021, volunteers have documented evidence of bird-window collisions all around the greater Seattle area and are helping to identify factors that contribute to collision risk so that we may prevent future collisions.

2024 was a big year in our monitoring efforts. We expanded from two to four monitoring seasons, surveyed at two new types of building and conducted carcass persistence and searcher efficiency trials. We also increased our efforts to use our project findings to encourage individuals, building managers, and city officials to take action to prevent bird-window collisions.

*American Robin found by Melanie Whitaker-Greyell and James Nichols at Seattle University, Fall 2024*

### 2024 Numbers at a Glance

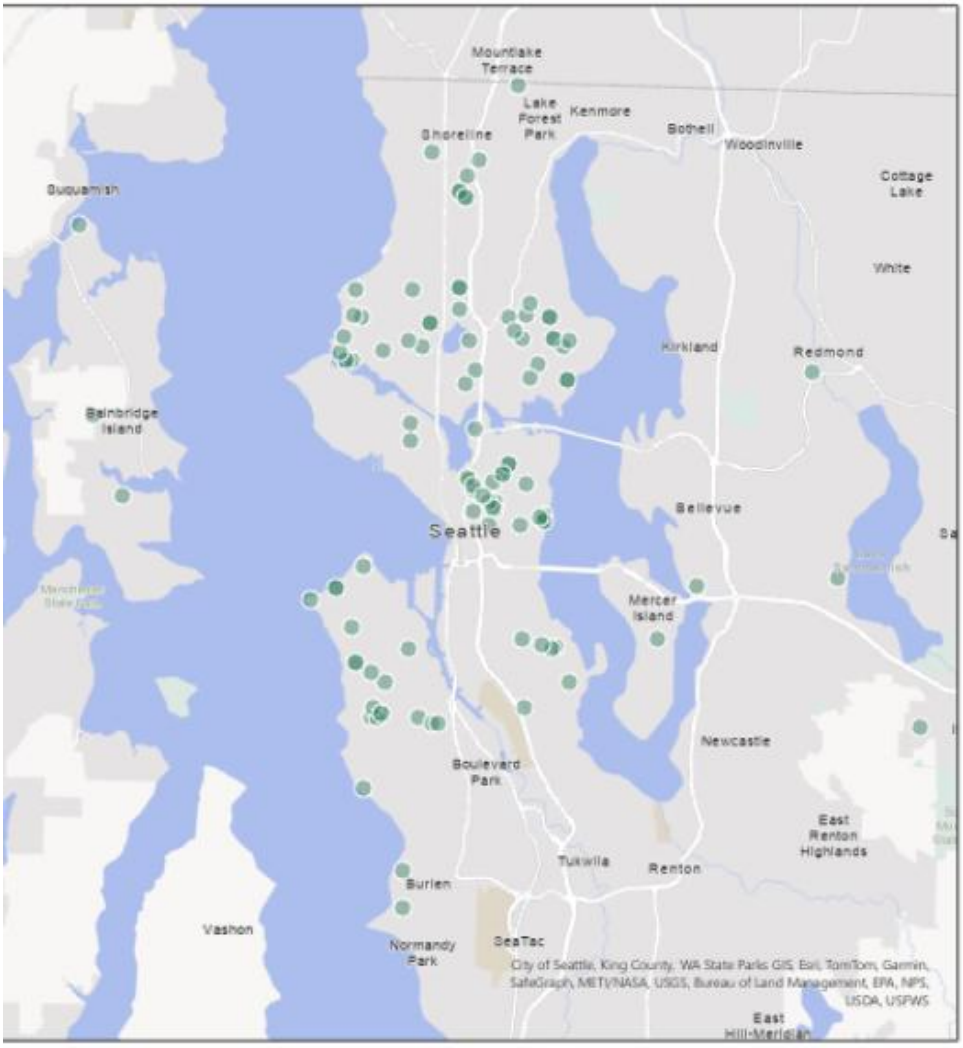
| | Fall 2024 (Sept 15-Oct 29) | Summer 2024 (July 15-Aug 29 | Spring 2024 (April 15-May 29) | Winter 2024 (Jan 15-Feb 29) | Total (unduplicated) |
|---|---|---|---|---|---|
| Survey Days | 45 | 46 | 45 | 46 | 182 |
| Buildings | 29 | 20 | 46 | 70 | 97 |
| No. Surveys | 516 | 281 | 1005 | 728 | 2530 |
| No. Surveyors | 39 | 20 | 70 | 77 | 120 |
| Search time (person hours) | 79 | 41 | 168 | 146 | 434 |
| Collisions Detected | 85 | 2 | 58 | 9-11 | 154-156 |
| Collisions Detected (not counting Tukwila) | 17 | 2 | 20 | 9-11 | 48-50 |
| Detection Rate | 0.1647 | .007 | .0577 | 0.01-0.015 | .06 |
| Detection Rate (not counting Tukwila) | 0.034 | .007 | 0.021 | 0.01-0.015 | 0.018-0.02 |

## Overall Findings

Since the fall of 2021, over 200 Birds Connect Seattle volunteers have spent more than 900 hours monitoring commercial, institutional, and residential structures for evidence of bird-window collisions.

Our most recent analyses suggest that collisions with windows kill approximately 82,000 birds per year at detached residential buildings and 4,500 birds per year at institutional (e.g., university) buildings, just within the City of Seattle every year.

The assumptions behind our models are conservative. The real annual death toll is likely higher that what we estimate.

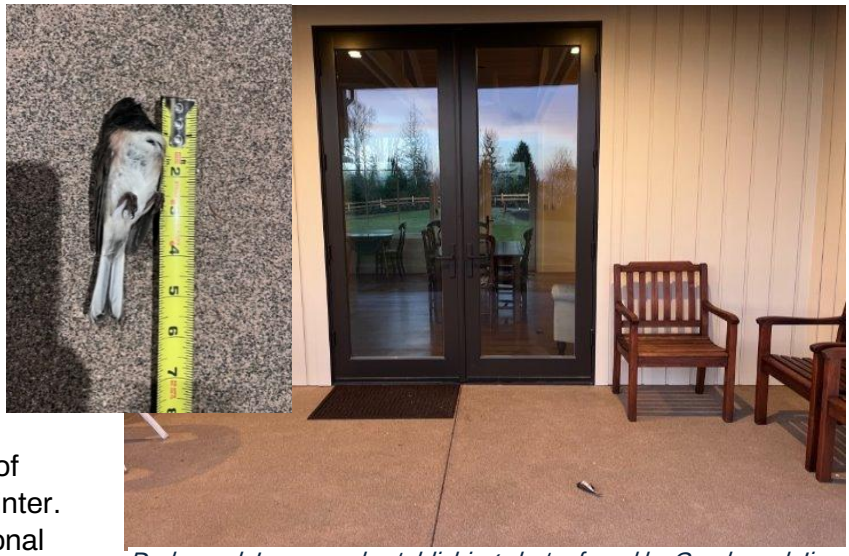



*Locations of at-home surveys, darker points indicate more surveys have been conducted in that area, a few surveys have been conducted outside the range of this map*

## Our First Winter Monitoring Season

We held our first all at-home winter season from January 15 to February 29, 2024. It was our biggest season to date in terms of number of buildings monitored and number of volunteers, as at-home monitoring is more accessible for a wider range of participants.

We were particularly interested in monitoring during the winter because East Coast collision monitoring has typically found lower numbers of collisions and lower detection rates outside of spring and fall migration. We have found that our detection rates are similar in winter and spring (see table above), possibly due to the increased presence of Varied Thrushes in Seattle in winter. Varied Thrushes are an elevational migrant not found on the East Coast and a species with particularly high collision risk.



*Dark-eyed Junco, and establishing photo, found by Carole and Jim Kitchell during an at-home survey, Winter 2024*

Volunteers also helped us conduct twelve carcass persistence trials to help us estimate the probability of carcass removal by scavengers over time. Volunteers placed carcasses in front of trail cameras at their homes. Seven of the twelve carcasses were scavenged within a week by rats, raccoons, a squirrel and possibly a crow. Five of the carcasses were scavenged within the first 24 hours of the trial, which suggests that, even if collision monitors find every carcass that is present at the time of their survey, we may be finding only about 60% of birds that died in window collisions, with the other 40% being removed by scavengers between surveys.


*Raccoon approaching Red-breasted Nuthatch carcass during a carcass persistence trial hosted by Claire Catania, Winter 2024*

## New Building Types for Spring Routes

In spring 2024, we returned to our study routes at the Seattle Asian Art Museum and Seattle University and added two new routes at two new types of building: a neighborhood commercial corridor in Columbia City and a light rail station in Tukwila.

We found a huge amount of collision evidence at the Tukwila light rail station, mostly in the form of dust prints on the windows, with a few pigeon carcasses also present. The Tukwila light rail station quickly emerged as a problem building, but also as a very unique case, and incorporating the collision evidence from the station into the detection rates for the season dramatically changed our results. The data collected at the station will be valuable for working with Sound Transit to make their buildings safer for birds, but is likely less relevant for collision detection rates and using in analyses to understand collision rates on a city-wide scale.

We did not find any unequivocal collision evidence at the commercial buildings we monitored in Columbia City. We found four pieces of collision evidence at both the Seattle Asian Art Museum and Seattle University. At-home monitors found an additional twelve pieces of collision evidence.

*Dust print found on a window at Tukwila light rail station by Steve Linden, Spring 2024*


*American Crow approaching Song Sparrow carcass during a carcass persistence trial hosted by Ellie Yamanaka, Spring 2024*

With the help of some of our volunteers, we conducted an additional twelve carcass persistence trials. Eight of the twelve carcasses were scavenged within a week by rats and crows. Three of the carcasses were scavenged within the first 24 hours of the trial. Compiling the data from both seasons of carcass persistence trials results in a slightly lower rate of estimated carcass removal by scavengers of around 33%.

We published an article for Earth Care about bird window collisions and their impacts on scavengers. If you didn't get a chance to read it when it came out in March 2024, you can find it here.

During the spring season, we surveyed our volunteers about the actions they have taken to address bird window collisions. Volunteer responses help us support people in taking action to reduce bird window collisions both directly at their own homes and through advocacy to policy makers and outreach to friends, family and building managers.

The survey results show that most of our volunteers have taken some action to prevent bird-window collisions, particularly at their own homes and by talking with family and friends about the issue. However, significantly fewer

*Townsend's Warbler found at the Seattle Asian Art Museum by Joe Myers and Gina Hicks, Spring 2024*

had advocated for bird-safe building standards by contacting public officials or talked with a building manager or other staff member at a building that may have high risk of bird-window collisions about collision prevention, despite relatively high levels of interest in doing so. This suggested that providing resources and support to help our volunteers engage in advocacy and formal conversations relating to bird-window collision prevention might have the greatest impact on the types of actions our collision monitoring volunteers take to prevent bird-window collisions.

## Our First Summer Monitoring Season

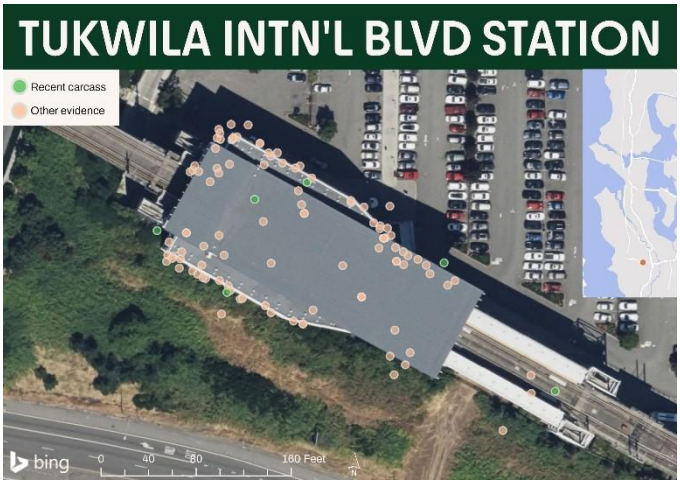
We held our first summer monitoring from July 15-August 29, 2024. Like the winter season, it was entirely at-home. Matching trends from other parts of the country, we found less collision evidence during our summer surveys than any other seasons. Only two volunteers reported collision evidence, both hearing the collision occur rather than finding a carcass during a survey.

We analyzed our data prior to the summer season and wrote a blog about what our data might say about the overall annual mortality rate due to bird window collisions in Seattle, which can be found here. As you can see from the mortality rate estimates at the beginning of this report, adding the summer and fall data from 2024 made a big difference in the estimates we were able to make.

## Our Fourth Fall Monitoring Season

For the final season of 2024, and the beginning of the fourth year of the Seattle Bird Collision Monitoring Project, we continued at-home monitoring and returned to the same four routes from the spring.

Once again, we found no collision evidence on our study route in Columbia City, which may suggest that despite the high percentage of glass in the storefronts of the commercial corridor, other factors are reducing collision risk or detection rates. Our surveyors at-home, at the Seattle Asian Art Museum, and at Seattle University found about as much collision evidence as they found during the spring season.




The same high numbers of dust prints and pigeon carcasses were found at the Tukwila light rail station. Mapped on a picture of the station, the collision evidence shows a few places that are particularly high risk, including the northwest corner of the building, but also demonstrates that the whole building is dangerous for birds.

During the fall season, we also sent out a survey to the Birds Connect Seattle community seeking information from people who have already installed collision deterrents to help us better understand motivations for and barriers to taking action to prevent bird-window collisions. The most common motivation for taking action was experiencing one or more bird-window collisions

at their home. A second motivation was learning about the problem, wanting to prevent collisions and wanting to be able to share about bird-window collisions and prevention strategies with family, friends and neighbors. Some of the biggest barriers to taking action included concern about obstructing the view from the window, uncertainty about which product to use, and the challenge of physically installing deterrents, particularly on difficult to reach windows.

## Taking Action

Using the data from the Volunteer Action survey and the Motivations and Barriers survey, we are developing additional resources to help people choose which collision deterrent options work best for their homes, updating our website to make the information and resources we do have more accessible, and working on developing a volunteer team that can help install collision deterrents on large or hard to reach windows.

In 2024, we made a lot of progress engaging with partners to address the windows at some of the most dangerous buildings we have identified through our monitoring efforts and to get the City of Seattle to adopt bird-safe building standards.

### Bird-safe Building Standards

For Bird-Safe Seattle Week in September 2024, we made a big advocacy push to get Seattle to adopt Bird-safe Building Standards. Volunteers met with the offices of all nine Seattle City Councilmembers and the Mayor, and supporters sent in more than 400 advocacy emails and postcards.

In response, Councilmember Dan Strauss (District 6) expressed willingness to sponsor a bird-safe building ordinance in City Council. City leaders also said they would work to incorporate "reducing urban hazards to wildlife" into the next version of Seattle's comprehensive plan. We continue to work to hold these leaders accountable to their commitments.

### Seattle University


Seattle University is committed to sustainability and has been a great partner in our collision research. Seattle University incorporates data from the SBCMP and dBird into its Sustainability Tracking, Assessment, and Rating System (STARS) reporting. See their most recent reporting on biodiversity, including collision information here.

Beyond reporting, SU is advancing bird-safe building policy on campus. They are writing bird-safety into specs for their upcoming renovation of the Casey atrium. They are also developing a project proposal to address collisions at the Student Center, which emerged in Fall 2024 as likely the deadliest building on campus.

### University of Washington

The University of Washington incorporated bird-friendly design requirements into its Green Building Standards! The changes were developed and championed by Judy Bowes, who also consulted with us on the design of the Seattle Bird Collision Monitoring Project. This leadership by UW is a big deal. It will help drive local demand and expertise for bird-safe building design and can serve as a model for action by others. We've already started prodding other local universities to adopt their own standards.

### Sound Transit

Sound Transit met with us during the summer of 2024 and are researching best practices for collision prevention. They are open to conversations about retrofits. We will continue to work with them to encourage installing collision deterrents at the Tukwila light rail station and developing a different light rail station design for future stations with less glass or incorporating bird-safe building practices into the design.

### Seattle Asian Art Museum

The Seattle Asian Art Museum emerged as a collision hotspot as soon as we began monitoring it. In particular, the north face of the new wing at the back of the building is the main site of bird-window collisions at the museum.

After our first season, Birds Connect Seattle contacted facilities directors at the museum to share the findings and discuss solutions. The Museum site tested several collision prevention treatments and will be installing Bird Divert in spring 2025.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*Swainson's Thrush found during an at-home survey by Noriko Osada, Spring 2024*