

# Take Action. Protect Wildlife.

## Texas Conservation Alliance

### Lights Out Fort Worth Spring 2023 - End of Season Overview

Dear **Lights Out Fort Worth** Team,

This spring, TCA's Lights Out Fort Worth team (LOFW) successfully completed its first season of bird-window collision surveys in downtown Fort Worth. As we welcome the warm summer season, TCA would like to share the following data collected by the LOFW team.

The spring surveys were conducted over a 9-week period, resulting in a total of 124 recorded birds that encompassed 32 individual species and 20 families. All birds were documented and uploaded into the statewide [iNaturalist monitoring project](#). This report overviews the collision monitoring results and diversity of birds recorded throughout the season, including 1 species, the White-eyed Vireo, found during preseason surveys on March 22nd and 31st.

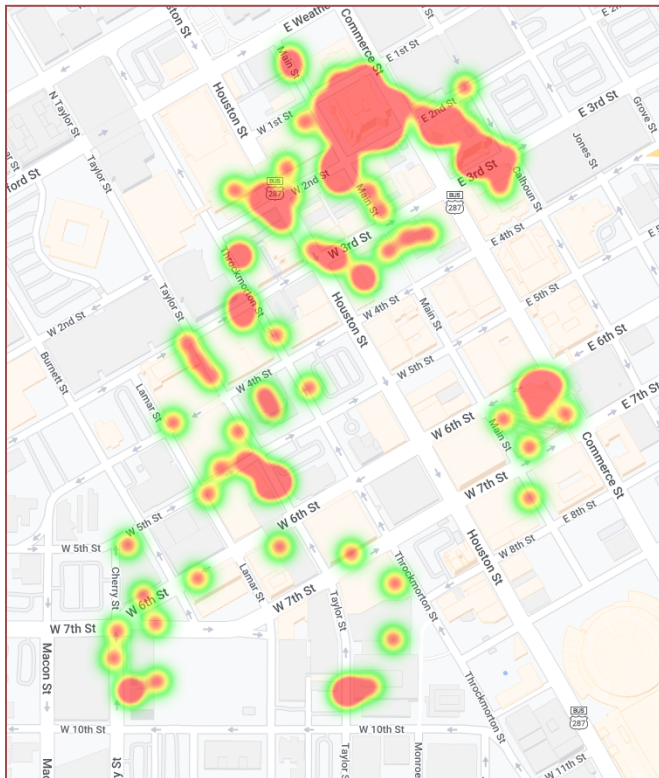


## Methodology

A standardized methodology set by Audubon Texas, Cornell Lab of Ornithology, and Oklahoma State University was followed by the LOFW team to establish survey protocols. Surveys consisted of coordinators and volunteers that documented collisions in the early morning hours. Stunned and injured birds were documented and rescued if possible for delivery to licensed wildlife rehabilitators. Dead birds that were collected were assigned a unique casualty ID and entered into a salvage pipeline to be preserved at the Biodiversity Research and Teaching Collections (BRTC) at Texas A&M University in College Station.

### 10-Building Study

A predefined route was followed around 10 buildings that were selected as our main focus areas. These buildings consisted of a mixture of materials (glass, concrete, brick) and varying heights ranging from 50 to 567 feet. Downtown Fort Worth's unique architecture was evenly represented by these 10 buildings, allowing us to better understand the material factors that affect bird-building collisions.



**Figure 2.0:** A Heatmap of Documented Observations from the Lights Out Fort Worth Surveys from April 1 - May 31, 2023. Large red areas signify greater density of recorded birds.



**Figure 1.0:** Survey Route for Lights Out Fort Worth 10-Building Study

### Building Results and Collisions

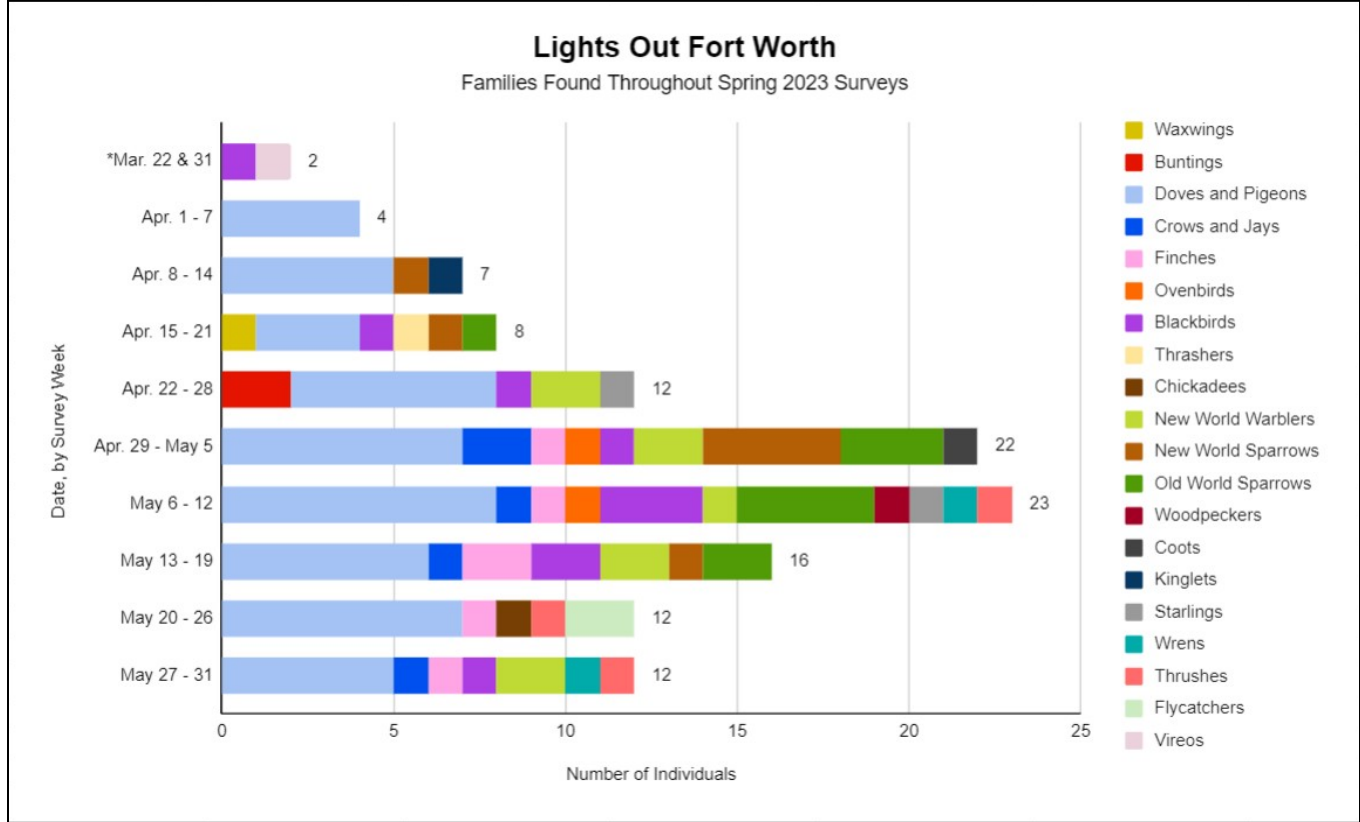
Throughout our survey, 29 buildings were documented as having dead, stunned, or injured birds. Of those 29 buildings, 9 were part of our 10-building study. While some observations were not obvious window collisions, they are still worth documenting as there is no way to accurately rule out collisions as a co-morbidity in death or injuries.

For example, stunned birds post-collision can become susceptible to threats such as getting run over by traffic or predation.<sup>2</sup>

# Observations

## 1. Composition of Bird Families Throughout Spring 2023 Surveys

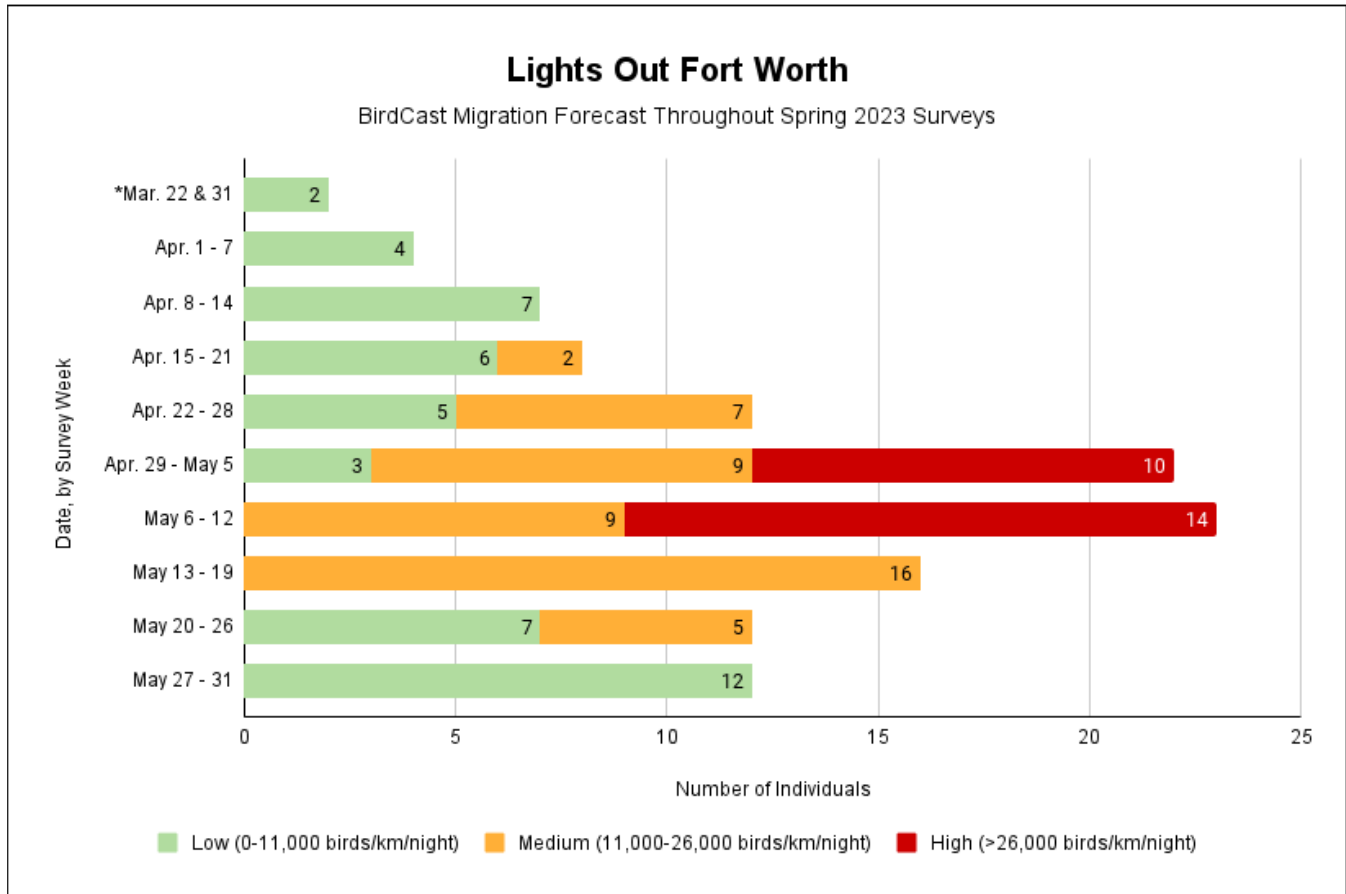
A total of 32 unique species encompassing 20 families were recorded throughout the spring season. This includes the 1 species found during the two preseason surveys on March 22nd and 31st - the White-eyed Vireo (Family *Vireonidae*). The most abundant species observed, Mourning and White-winged Doves (Family *Columbidae*), make up 35% of recorded birds. We began to see more migratory species towards the end of week 2 (Apr. 8 - 14) and beginning of week 3 (Apr. 15 - 21) after we found a Golden-crowned Kinglet (Family *Regulidae*) and a Cedar Waxwing (Family *Bombycillidae*). Once the peak migratory period began, there was a sharp increase in species diversity. This included the first warbler of the season, a Nashville Warbler (Family *Parulidae*) and a pair of Painted Buntings (Family *Cardinalidae*) all documented in week 4 (Apr. 22 - 28). Warblers continued to be documented through mid-May, with our last warbler of the season documented on May 31st.



**Figure 3.0:** Bird Families Found Throughout Lights Out Fort Worth Spring 2023 Surveys by Number of Individuals Found per Week.

## 2. Frequency of Birds with BirdCast Migration Forecast

The spring migration season is from March 1st to June 15th, but the peak migratory period, which lasts from April 22nd to May 12th, is the critical period where the highest density of birds migrate through the area. Approximately 46% of all birds were documented during this peak migratory period, and 72% of all birds were migratory species. The LOFW team used the Cornell Lab of Ornithology [BirdCast migration tool](#) to determine the density of migrating birds before each survey. We had 34 days of low migration, 22 days of medium migration, and 7 days of high migration. Despite high migration only occurring for a total of 7 days between weeks 5 and 6, those days contributed to almost 20% of recorded birds. (See Figure 4.0)



**Figure 4.0:** BirdCast Migration Forecast Throughout Lights Out Fort Worth Spring 2023 Surveys by Number of Individuals Found per Week. This graph shows the total number of birds found each week, divided by whether they were found on low, medium, or high migration days. For example, during week 5 (Apr. 29 - May 5) we found 3 birds on days that had a low migration forecast, 9 birds on medium migration days, and 10 birds on high migration days.



### 3. New Species Documented

A Downy Woodpecker (Family *Picidae*) was documented in Fort Worth during mid-May. Interestingly, a Downy Woodpecker was also found in late May by the Lights Out Dallas team. Further up north, Downy Woodpeckers may migrate short distances south, but they are a common resident backyard bird all across North America<sup>1</sup>. However, their range is decreasing eastward, and may not be as common in Fort Worth in the future. It is unknown why this species was found for the first time on the Lights Out Texas Monitoring project in both cities this year, but the data can be used by researchers to create predictive models for the future.



*Downy Woodpecker documented by LOFW Volunteer Survey Leaders Joy Havner and April Pajoohi.*

## Reflection from TCA's Spring 2023 Intern

Zachary Chapman, one of TCA's Spring 2023 Interns, concluded his 10-week internship on May 31st. His internship experience was unique in that he documented the first season of collisions surveys for LOFW through the lens of his camera. Zachary is pursuing his B.A. in Photography with a focus in nature and wildlife photography at the University of Texas at Arlington. His photos (seen in the photo collage below) include birds, the surrounding environment, and even macro photography with small insects downtown. See Zachary's reflection on his internship with TCA:

*"This has been the most eye opening experience. I never knew just how many other species were impacted... seeing all I have seen really makes me appreciate this initiative more than ever. I will take what I have learned here and will build up on it. It is a hard job being in the service of wildlife even when human impacts are involved. Yet, in the end it is all worthwhile and worth the effort. I hope that more people get in on this for Fort Worth."*



(Top row) 1. Zachary takes photos of a moth downtown. 2. Zachary in Sundance Square. 3. Genus Chironomus. 4. Zachary at the Fort Worth Museum of Science and History. (Middle row) 5. Genus Hileithia. 6. Fractured Western Snout Moth. 7. House Sparrow. 8. Bewick's Wren 9. Fort Worth skyline. (Bottom row) 10. Wells Fargo Tower. 11. House Sparrow having a snack. 12. Nashville Warbler.





A very big THANK YOU to all of our partners who helped support Lights Out Fort Worth this season and beyond! On behalf of TCA, we express our deepest gratitude. We are looking forward to welcoming many new partners and members of the community in our fall season. Thank you for taking the time to read our final report to conclude the first season of collision surveys in Fort Worth. We are excited and hopeful for the future, just as this quote describes the repeated refrains of nature giving us a sense of renewal with the passing seasons:

***“There is symbolic as well as actual beauty in the migration of the birds, the ebb and flow of the tides, the folded bud ready for the spring. There is something infinitely healing in the repeated refrains of nature - the assurance that dawn comes after night, and spring after the winter.”***  
**- Rachel Carson, *The Sense of Wonder***

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#### **References:**

- <sup>1</sup> Downy Woodpecker. American Bird Conservancy. (2020, June 24). <https://abcbirds.org/bird/downy-woodpecker/>
- <sup>2</sup> Parkins, K. L., Elbin, S. B., & Barnes, E. (2015). Light, glass, and bird—building collisions in an urban park. *Northeastern Naturalist*, 22(1), 84–94. <https://doi.org/10.1656/045.022.0113>