COMMUNITY SCIENCE BIRD MONITORING AT HERMAN FRANKS PARK

Project Report 2019

Project Overview

Herman Franks Park is a small city park in downtown Salt Lake City, UT (Figure 1). Featuring a dog park and baseball fields, Herman Franks Park stretches across Emigration Creek, which has been diverted underground between Westminster College and where it flows into Liberty Park Pond. The Seven Canyons Trust has proposed the idea to uncover, or 'daylight,' over 1,000 feet of Emigration Creek along the northern and eastern parts of the park. In 2017, Tracy Aviary began a community science bird monitoring survey project at the park. This project will establish a baseline understanding of the bird community at Herman Franks park, and quantify the impact of creek daylighting or other site changes on bird habitat. Here, we summarize results from our 2019 bird monitoring field season.

Breeding season point count surveys:

During April – July of 2019, 8 community scientists and Tracy Aviary staff conducted 6 breeding season point count surveys at 2 survey points at Herman Franks Park (Figure 1, 2). Point count surveys were conducted by pairs of community scientists between dawn and 10am. The 'observer' identified all birds seen and heard during a 6-minute period, and noted the number of individuals, distance, and direction. The 'recorder' wrote all of the observations on the datasheet, noted the minute during the survey (1-6) when the observation was made, and also noted weather and site variables, such as wind speed and cloud cover.

Non-breeding season group surveys:

Data from point count surveys was supplemented by 4 non-breeding group surveys conducted monthly in January, February, September and October 2019. During non-breeding surveys, groups of community scientists led by a trained Tracy Aviary staff person walked a transect through the site and noted all birds seen and heard in the area.

2019 Results

During 6 breeding season surveys in 2019 we had 160 bird observations and detected 23 species (Figure 3, 4). During 4 non-breeding season surveys, we had 35 bird observations and detected 10 species. 11 species were detected exclusively during the breeding season, and 3 species were detected exclusively during the non-breeding season, resulting in a total species list of 23 species for the year. See the complete species list for Herman Franks Park on page 3.

Figure 1. Map of bird sampling points at Herman Franks Park.

Figure 2. Tracy Aviary community scientists conducting breeding season (top) and non-breeding season (bottom) bird surveys.

Bird Detections of Different Families and Habitat Guilds at Herman Franks Park

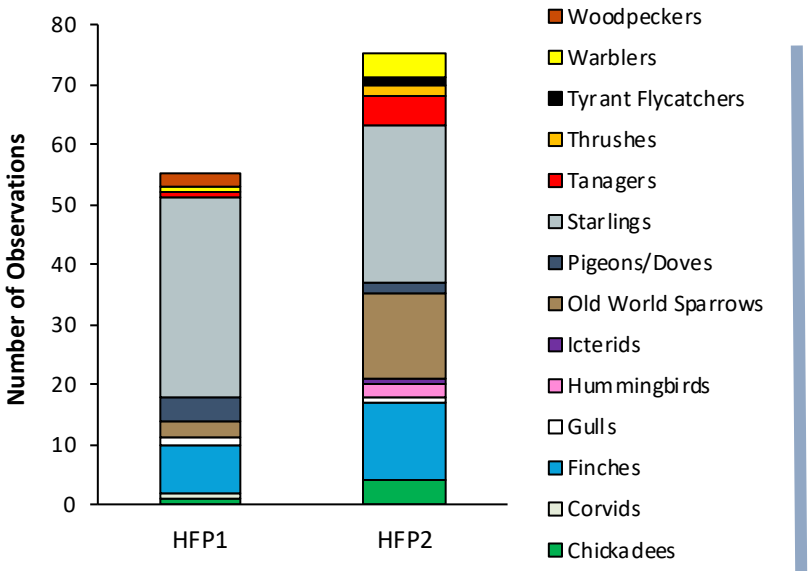

Figure 3. Number of birds from different families detected during 2019 breeding season surveys at Herman Franks Park.

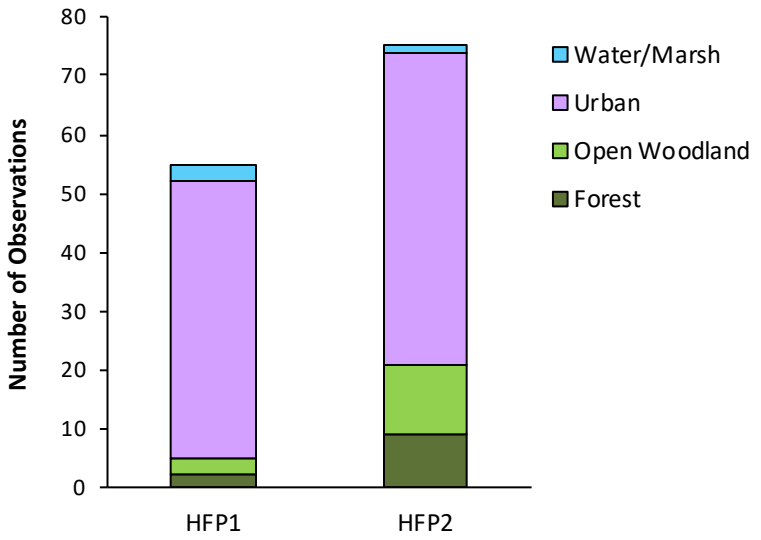

Figure 4. Number of birds from different habitat guilds detected during 2019 breeding season surveys at Herman Franks Park.

Comparison to other Jordan River Sites

We compared the current bird community at Herman Franks Park with a sample of 7 other sites that we monitor along the Jordan River (Figure 5). These sites contain 37 sampling points located within lowland riparian habitat surrounding the river. We compiled data from 2019 breeding season surveys at all sites between April and July 2019. We classified observed bird species in three different ways. First we determined whether they were native or non-native to the area. Second, we classified them as urban-adapted or urban-neutral/urban-avoider based on classification developed by Wood et al. (2014). Finally, we classified them according to their association with riparian vegetation; species were classified as riparian-associated when >60% of nests/abundance are in riparian vegetation (Bureau of Land Management 1998, Young et al. 2013). For each survey, we calculated the number of species of each group that were detected within 125m of the sampling point. We used an independent samples t-test to test for significant differences between the proportion of non—native species, urban-adapted species, and riparian-associated species detected at Herman Franks Park and other Jordan River comparison sites.

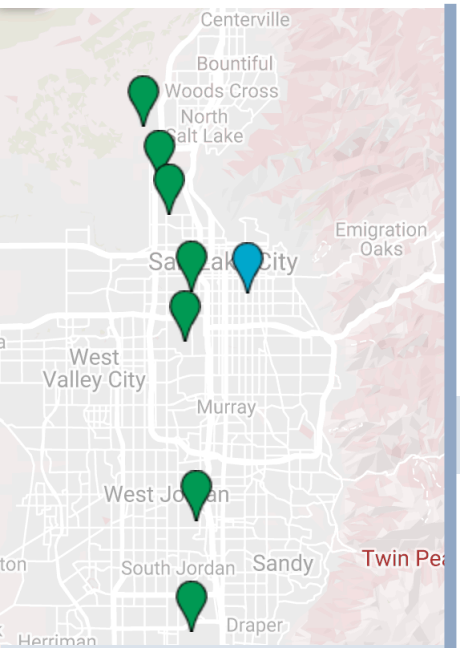

Figure 5. Map of the location of Herman Franks Park (blue) and other study areas used as Jordan River Comparison sites (green).

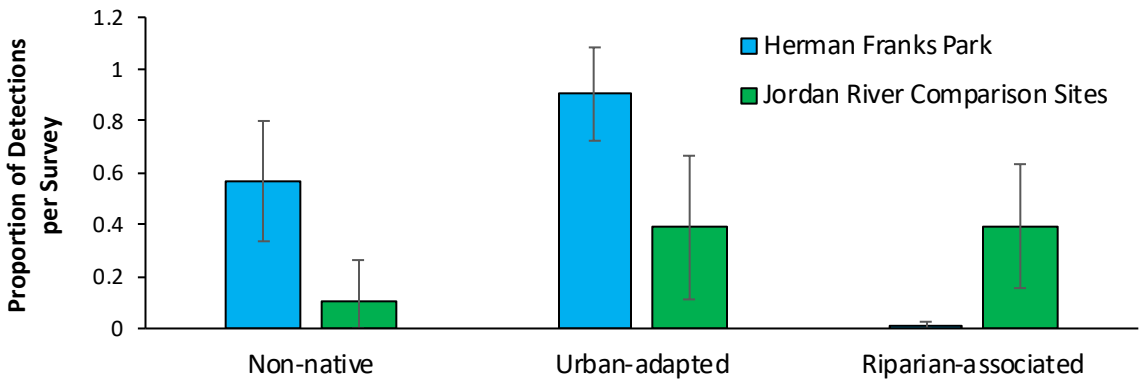

Figure 6. Average proportion and standard deviation of detections of non-native, urban-adapted, and riparian-associated birds at Herman Franks Park (blue) and Jordan River Comparison sites (green).

Herman Franks Park had a significantly higher proportion of detections per survey of non-native ($t=6.763$, $p<0.0001$) and urban-adapted species ($t=6.102$, $p<0.001$) than the Jordan River Comparison sites, and a lower proportion of riparian-associated species ($t=-20.626$, $p<0.0001$). After daylighting and restoration has taken place at the park, we will analyze how the community changes from this baseline. If the daylighting and restoration activities effectively enhance the ecological value of the site, we would expect to see a shift in the bird community to contain fewer non-native and urban-adapted birds, and more riparian-associated birds.

COMPLETE LIST OF BIRDS DETECTED AT THE HERMAN FRANKS PARK IN 2017-2019

Species	Number of Observations (detections/survey)					
	Breeding Season 2017	Non-breeding Season 2017	Breeding Season 2018	Non-breeding Season 2018	Breeding Season 2019	Nonbreeding Season 2019
European Starling	23	24.4	36.33	6.5	10.17	2.5
American Crow	4	1.8	0.17	0	0.17	0.75
House Sparrow	3	13.4	4.5	3.17	2.83	0.5
House Finch	2.4	19.4	5	6.83	2.83	2
Rock Pigeon	2	2.4	1	0	0.17	0
Black-capped Chickadee	1.8	1.8	1.33	1.5	1.17	0.25
American Robin	1	0.2	1.5	0	0.33	0
Eurasian Collared-dove	0.8	4	1.5	0.5	0.67	1
Lesser Goldfinch	0.8	1.2	1.83	1.17	0.67	0
American Goldfinch	0.4	1.2	0	0	0	0
Cooper's Hawk	0.4	0	0	0.17	0.17	0.25
Mallard	0.4	0	0	0	0.17	0
Mourning Dove	0.4	3.2	0.33	0.5	0.83	0
Yellow Warbler	0.4	0	1.17	0	1	0
Barn Swallow	0.2	0	0.67	0	0	0
Black-chinnued Hummingbird	0.2	0	0	0	0	0
California Gull	0.2	0	0.33	1.83	0.33	0.25
Downy Woodpecker	0.2	1.6	0.17	0.17	0.33	0
Brewer's Blackbird	0	0	0.5	0	0.17	0
Cedar Waxwing	0	8.4	0.5	0	0	0
Canada Goose	0	6.2	0.33	1.33	0.33	0
Great-blue Heron	0	0	0.17	0	0	0
Great-horned Owl	0	0	0.17	0	0	0
Northern Mockingbird	0	0	0.17	0	0	0
Ring-billed Gull	0	0.4	0	0.17	0	0.25
Sharp-shinned Hawk	0	0.2	0	0	0	0
Northern Flicker	0	1	0	0	0	0
Woodhouse's Scrub-jay	0	0.2	0	0.33	0	0
Common Raven	0	0.2	0	0	0	0
Evening Grosbeak	0	0.4	0	0	0	0
Pine Siskin	0	0.4	0	0	0	0
Dark-eyed Junco	0	0.8	0	0	0	0
Ruby-crowned Kinglet	0	0	0	0.17	0	0
Yellow-rumped Warbler	0	0	0	0.17	0	0
Western Tanager	0	0	0	0	1	0
Broad-tailed Hummingbird	0	0	0	0	0.33	0
Bullock's Oriole	0	0	0	0	0.17	0
Song Sparrow	0	0	0	0	0.17	0
Spotted Sandpiper	0	0	0	0	0.17	0
Western Wood-pewee	0	0	0	0	0.17	0
Red-tailed Hawk	0	0	0	0	0	0.5

Acknowledgements

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Literature Cited

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