



# COMMUNITY SCIENCE BIRD MONITORING AT LIBERTY PARK

## 2020 Project Report

### PROJECT OVERVIEW

Liberty Park is an 80 acre urban park in downtown Salt Lake City, UT. The park has a variety of recreation amenities and natural features, including a jogging path, pond with several islands, and 8-acre Tracy Aviary. As a large green space with multiple habitat types located within a highly urbanized matrix, Liberty Park is used by a variety of bird species throughout the year. Since 2013, Tracy Aviary has conducted a community science bird monitoring project in Liberty Park. Here, we summarize results from our 2020 field season.

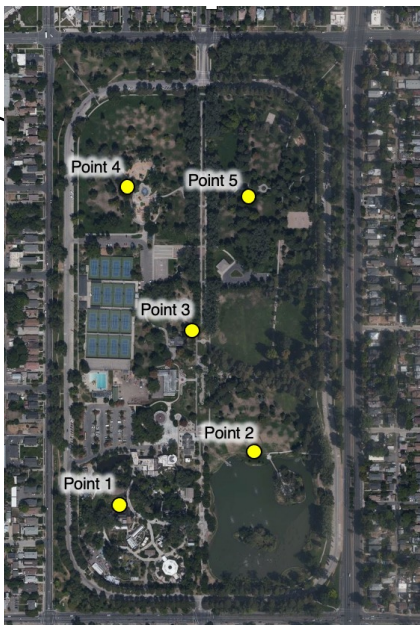
### STUDY SITES

We generated five sampling points across Liberty Park where we conducted bird and vegetation surveys. These surveys are part of a larger community science bird monitoring program that includes twelve other study sites in the Salt Lake region. Using information from other study sites, we can gain inference about larger scale patterns and trends in urban and riparian birds communities.

#### Bird Monitoring Sites



#### Liberty Park Sampling Points



### BIRD SURVEY METHODS

#### Breeding season point count surveys



During May – July of 2020, 6 community scientists conducted 4 breeding season point count surveys at Liberty Park. Point count surveys were conducted by pairs of community scientists between dawn and 10am. The ‘observer’ identified all birds seen and heard during six minutes, 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

Information from point count surveys was supplemented by non-breeding group surveys conducted at the site in January, February, March, August, September, October, November, and December 2020. During non-breeding surveys, groups of volunteers led by a trained Tracy Aviary staff person walked a transect through the site and noted all birds seen and heard in the area.



# BIRD MONITORING 2020 RESULTS

## 2020 SURVEY SUMMARY

During 6 breeding season surveys at Liberty Park in 2020, we had 564 bird observations and detected 39 species. During 8 non-breeding season surveys, we had 3,143 bird observations and detected 53 species. We had a total species list of 66 species at Liberty Park in 2020.



Song Sparrows are one of the bird species that use habitat at Liberty Park.

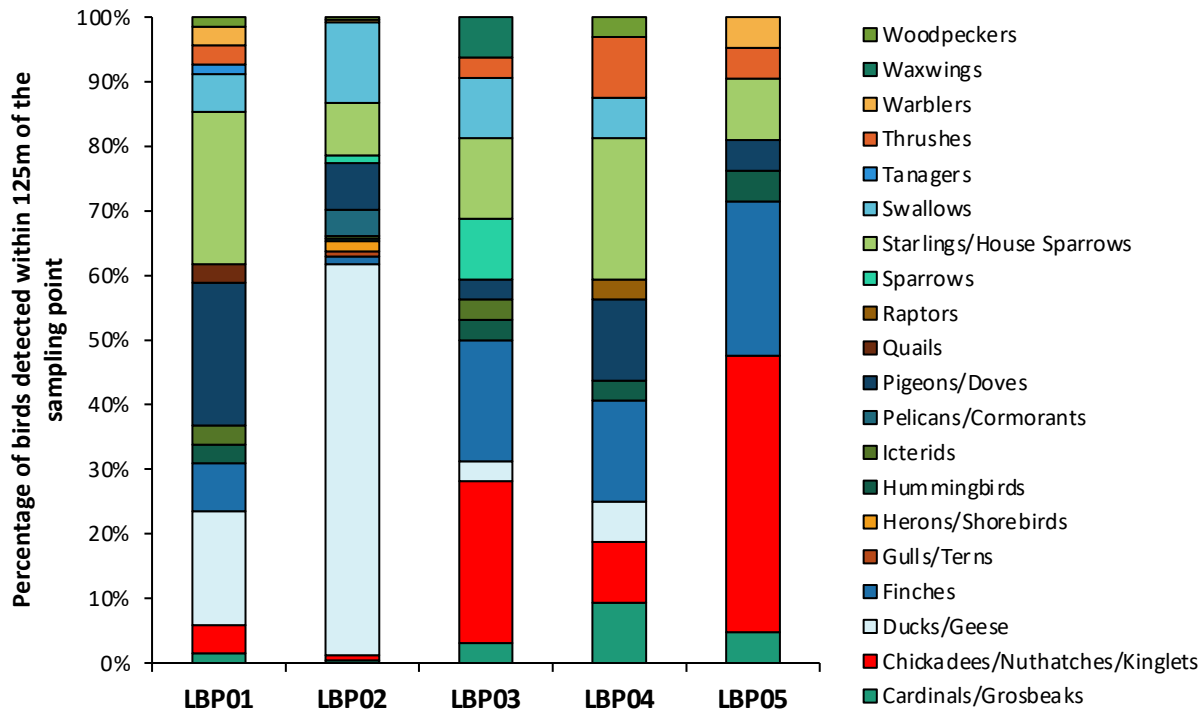
Since we began monitoring surveys in 2013, there have been 171 bird species that have been documented using habitat at Liberty Park throughout the year.

## BREEDING SEASON COMMUNITY COMPOSITION

We examined the composition of bird communities across sampling points at Liberty Park by comparing relative proportions of bird families and habitat guilds for species detected within 125m of each point during the breeding season.

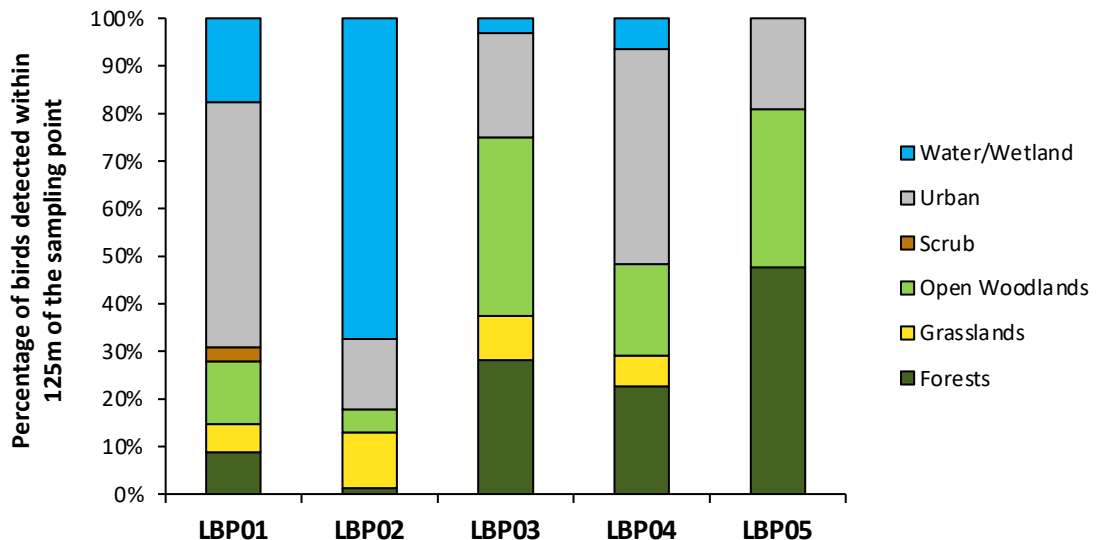
### Families

The bird community at Liberty Park had a high proportion of waterfowl at points LBP01 and LBP02, and had high proportions of chickadees, nuthatches, kinglets, and finches at points LBP03, LBP04, and LBP05. LBP03 had the highest proportion of sparrows among all points.



### Habitat Guilds

The bird community at Liberty Park varies by point. LBP02 had high proportions of wetland/water birds, while LBP01 and LBP04 had high proportions of urban birds. High proportions of birds that rely on forests and open woodlands were found at LBP03, LBP04, and LBP05.



**LIBERTY PARK**  
**COMPLETE LIST OF BIRDS DETECTED DURING**  
**BREEDING SEASON SURVEYS (DETECTIONS PER SURVEY)**

Species	Year							
	2013	2014	2015	2016	2017	2018	2019	2020
American Coot	0	0.13	0	0	0	0	0.5	0
American Crow	0.17	1.88	1.67	0.75	0	0.33	0.5	0.25
American Goldfinch	0.83	1	0.33	0.5	0.4	0	0.33	0
American Robin	1	2.5	1.33	2.25	0.8	3	1.67	1.75
American White Pelican	0.17	0	0	0	0	0	0.17	2.25
Bank Swallow	0	0	0	0	1	0	0	0
Barn Swallow	3.83	3.38	2.33	3.75	8.2	16.5	5.17	9.75
Black-billed Magpie	0	0.13	0	0	0	0	0.17	0
Black-capped Chickadee	2.67	4.13	2.33	6	3	3.5	6.33	6.25
Black-chinned Hummingbird	0	0	0.67	0	0	0.33	0.67	1.25
Black-crowned Night Heron	0	0	0	0	0	0.17	0	0
Brown-headed Cowbird	0.17	0	0	0	0	0	0.17	0
Black-headed Grosbeak	0	0.38	0.33	0	0.2	0	0.17	0.25
Brewer's Blackbird	0.83	1.13	1.67	1.5	3.6	3.33	1	0.25
Broad-tailed Hummingbird	0	0.38	0	0	0	0	0	0
Bullock's Oriole	0	0.13	0	0	0	0	0	0.75
California Gull	1.83	2.5	1.33	1.5	2	1.33	0.5	0.5
Canada Goose	0	2	1.67	2.75	50.2	32.83	24.33	30.25
California Quail	0.5	0.25	1	0.75	1	0.33	0	3.5
Cedar Waxwing	0.83	0.88	0	0	0.4	7.33	0	0.5
Cliff Swallow	0.17	0	0	0	0	0	0	0.25
Cooper's Hawk	1.67	0.13	0.33	0	0.8	0	0.33	0.75
Common Merganser	0	0	0	0	0.4	0	0	0
Common Nighthawk	0.17	0	1.33	0	0	0	0	0
Double-crested Cormorant	0.17	1.13	1.33	0.5	0	0.17	2	0.75
Domestic Duck sp.	0	0	0	0	0	0	0	1.75
Downy Woodpecker	0.17	0	0.33	0.75	0.4	0.5	0.17	0.75
Eurasian Collared-dove	0.83	2.25	1.67	4	3	3.5	1.5	2.75
European Starling	6.33	13.38	10.67	17.5	33	17.83	6.67	9.75
Evening Grosbeak	0	0	0	0	0	0	0	1.75
Great Blue Heron	0	0.13	0	0.25	0.2	0.17	0	0
Great Horned Owl	0	0	0	0	0	0	0.17	0
House Finch	3.33	4	4.33	3	2.4	6.17	3.33	3.25
Hooded Merganser	0	0	0	0	0.2	0	0	0
House Sparrow	1.33	3.63	1	2.5	4	3.33	2.67	5.75
Killdeer	0.17	0.5	0.33	0.75	0.4	0.33	0.5	0
Lazuli Bunting	0	0	0	0	0	0	0	0.25
Lesser Goldfinch	0.17	0.75	1.67	1.75	1.8	1.33	0.67	3.25
Mallard	5.5	8	7	8.75	19.6	46	28.67	33.5
Mourning Dove	0.5	1	0.67	0.5	0.6	2.33	1.5	1.5
Northern Flicker	0.33	1.38	1.67	0.25	0	0.17	0.33	0.5
Northern Rough-winged Swallow	0.17	0.13	0	0	0.2	0.17	0	0
Osprey	0	0	0	0	0	0.17	0	0

# LIBERTY PARK

## COMPLETE LIST OF BIRDS DETECTED DURING BREEDING SEASON SURVEYS (DETECTIONS PER SURVEY)

Species	Year							
	2013	2014	2015	2016	2017	2018	2019	2020
Pine Siskin	0.33	1.25	0.33	0	0	0	0	0.5
Ring-billed Gull	0	0.38	0	0	0	0	0	0.5
Red-breasted Nuthatch	0	0	0	0.25	0	0	0	0
Ruby-crowned Kinglet	0	0	1	1	0.2	0	1.67	0.5
Rock Pigeon	0	0.13	0	0.25	0	0	0.67	8.25
Say's Phoebe	0	0	0	0	0.6	0	0	0
Song Sparrow	0	0	0	1.75	1.4	1.83	3.33	1.5
Spotted Sandpiper	0.83	1.38	0.67	0.75	1	1.5	1.17	1.5
Violet-green Swallow	1	0.63	0	0	0	0.17	0.17	0.25
Warbling Vireo	0	0.13	0.33	0	0	0.17	0.17	0.5
Western Kingbird	0	0	0.33	0	0	0	0.5	0
Western Screech-owl	0	0	0	0	0	0	0	1
Western Tanager	0	0.13	0.67	0	0.8	1	0	0.25
Western Wood-pewee	0	0	0	0	0	0	0.33	0.25
Wilson's Warbler	0	0	0	0	0	0	0	0.25
Yellow Warbler	2.33	2.88	2	2.75	2	2	2	1.25
Yellow-rumped Warbler	0	0.13	0	0	0	0.17	0.17	0

**Acknowledgements:** We'd like to thank the extremely dedicated team of volunteers from Tracy Aviary's Community Science Program who braved early mornings and long hours to collect these data. Thanks also to the Liberty Park project partners.

