

Backyard Wildlife Project: Quarterly Report January-March, 2021



Morgan G.

Abstract

Backyards and neighborhoods provide critical area for wildlife to thrive. Thus, this research project was created to get a sense of the populations and influx of species within my backyard and neighborhood.

Notable events this quarter include:

- Pair of red-shouldered hawks (RSHA) make residence in nearby pine trees.
- The planting of three native plants: desert globemallow, Cleveland sage, and bush monkeyflower.
- Migrating species: White-crowned sparrow (WCSP), Audubon's warbler (AUWA), golden-crowned sparrow (GCSP), pine siskin (PISI), green-tailed towhee (GTTO), Hermit thrush (HETH), Cassin's kingbird (CAKI), ruby-crowned kinglet (RCKI), rufous hummingbird (RUHU), (flyover) Swainson's hawk (SWHA), (flyover) American white pelican (AWPE), and hooded oriole (HOOR).
 - Total 12 migrating species
 - Turkey vultures (TUVU) also exhibited migratory behaviors with influxes of 20-30 flying over at a time.
- New species (Total 5): Red-shouldered hawk (RSHA), European starling (EUST), ruby-crowned kinglet (RCKI), Cassin's kingbird (CAKI), and Swainson's hawk (SWHA).
- Overall population trend was either increasing or constant (ie. ANHU, HOFI, LEGO, SPTO MODO) . The only decrease was in Migrating species as they left the grounds and in dark-eyed juncos (DEJU).
 - This is also because this is the first analyzed report and will act as the control for the next quarterly report

Before Hand Information

Size of survey area

2,546.147 meters (8,353.5 feet)

As well as surrounding neighborhood area

Location of survey area

Pasadena

Length of project at this point

Consistently 3 months, on and off since September 10, 2020.

Number of bird species recorded in area (all time)

47 species

Number of non-Avian (mammals, reptiles, and insects) species recorded in area (all time)

5 species

Number of observers

Primarily Morgan G.

With assistance from three other observers

Bird Species Statistics

- Average number of species per month:
 - January: 12 species
 - February: 17.43, rounds to 17 species
 - March: 22 species
 - Total average: 17
- Average estimated number of individuals:
 - Minimum \approx 159 individuals
 - Maximum \approx 249
 - Average estimation \approx 204
- New species = 5
- Migrating species = 12
- Total number of species = 48

Process

Birding

Go outside and bird daily in order to get a consistent set of data. Ideally birding a minimum 2-3 hours a day. Some time spent, especially in the morning, is incidental (ie. HOFI, OATI, and MODO in feeder, CALT and NOMO foraging in grass). Most intentional birding is done from

4-6 pm traveling along the east side walls, front yard, and backyard. West side of house is seldom passed more than twice a day as the trees on that side are visible from all other parts of the house. Otherwise, the only part misusing would be neighbor's fence and part of house, which mainly hosts HOFI (which are at other locations anyways).

Counting Process

The researcher does not know the exact number of individuals per species living in the area, though based on day to day observances, we can determine minimums and isolate pairs of individuals. Minimum are considered when a number of individuals are seen all at once (ie. 7 male HOFI feeding on bird seed all at once). However, the chances that every individual of that species is present, the minimum is likely not also (close to) the actual maximum.

Birds are counted using educated guesses and previous data. Pairs of birds can be helpful as they are often seen together. Listening for other birds is also critically when a larger number of individuals are seen/heard. A tick mark is added every time an individual is seen, though when considering possible recounts, not every observation is tallied. This occurs, for example when a group of three mourning doves are seen together, then another trio less than 10 minutes later. It is likely the same group considering how MODO will stick together for prolonged periods of time in the same area. Bird behavior is also considered for this part as well. For instance, there are not many trios of MODO. Northern mockingbirds (NOMO), for example are quite territorial and move around a lot. Hence why the count is around 4-6 individuals. Any bird seen in flight is almost always marked down as a new individual. The researcher cannot be 100% if a bird is a recount or not, so tallies are based on bird behavior and movement, day to day frequency, and other factors.

Attempts to identify birds individually has been lightly attempted in a few species, especially with those who have unique sounds to the individual (ie. MODO, RSHA) and species with relatively few individuals (ie. RSHA, CASJ). Instances in which individuals have characteristic plumage are also taken into consideration and has been helpful in the past (ie. White spot on left side of CASJ named Polka, yellow and red plumage in male HOFI named Chem), and breast coloration in BHGR. Knowing individuals can also help identify their mates (ie. Chem and Audie the nesting HOFI), as well as overall behavior (ie. Polka who tends to call frequently enough to tell the song type and pitch).

Determining Population Trends and Frequencies

Population trends are either labeled as *increasing*, *decreasing*, or *constant*. Species labeled with *increasing* populations may have recently bred (especially year-round breeders like HOFI and MODO). A decreasing population may be represented in migratory species, as they come, leave,

and/or taper off in occurrence. A constant trend represents a population that did not increase or decrease at all or significantly. This may be attributed to breeding seasons in earlier or later months, or no observed significant change (ie. \pm 1-3 individuals). Population trends are labeled as either *daily*, *common*, *frequent*, *infrequent*, or *rare* in that order of increasing to decreasing.

Daily represents a species that are seen at least every day in fairly large numbers (ie. 4-10). Daily trends include that of HOFI, MODO, ACWO, and LEGO.

Common represents trends in which individuals are observed every 2-4 days at a significant frequency. Common trends are represented in species populations such as OATI.

Frequent represents instances in which individuals are observed at least once week, such as RSHA, RCPA, and LISP.

Infrequent trends represent a species seen every 2-3 weeks, as seen in TUVU, DEJU, and NUWO.

Rare trends are assigned to species populations seen once a month or longer, such as NOFL, AMKE, and EUST.

There have also been instances in which a species or individual are seen only 1-2 times (ie. MERL and GTTO). In this case, the trend notes are labeled with the number of times seen. The population cannot be accurately predicted with so few observations and is therefore marked with a /.

There are also flyovers (ie. TUVU, SWHA, and WTSW). These birds never come land in surrounding trees and bushes. In these instances, population trends are represented with the observed frequency, followed by the word Flyover.

The tilde symbol (~) is used for birds that come through sporadically throughout the three month study period. This is especially so during their migration season.

Alpha Codes and Scientific Names

Alpha codes are formed from four letters of each word in a species' common name. For example, the common raven's alpha code is CORA, formed from the CO in common and RA from raven. This is most common as most species names are two words. In the case of one word names, the alpha code comes from the first four letters, as seen in the bushtit, represented as BUSH. Names with a hyphen are grouped together with the word it connects to, as seen in California scrub-jay, represented as CASJ. In species with names composed of four words, a letter is taken from each word, as seen in Northern rough-winged swallow (NRWS, not recorded here). Some species would share alpha codes, like the California towhee and canyon towhee (not recorded here), as they could both be written as CATO. Instead, the first three letters are taken from the first word, making the California towhee CATO and the canyon towhee CANT. Species names in this report will be in alpha codes, unless otherwise written out for flow.

Scientific names are composed of an organism's genus and species. By looking at the name, we can determine how similar multiple species are, especially when looking deeper into the taxonomy in the family or order. Subspecies and ecotypes often apply to many species, including the ones in the backyard. The Audubon's warbler (AUWA), for example, is one of four subspecies of the yellow-rumped warbler (YRWA), the others being the Myrtle, west Mexico, and Goldman's subspecies. The white-crowned sparrow (WCSP) has five subspecies (leugophrys, oriantha, Gambel's, nuttalli, and pugetensis) with the Gambel's being the local subspecies here. Additionally, there are two ecotypes of northern flicker— different in appearance and able to hybridize, but genetically too similar to be considered their own species. There is the red-shafted northern flicker and the yellow-shafted, with the red-shafted being the local ecotype. By looking at the genus of a species, for example one can find the taxonomic similarities. For example, the lesser goldfinch (LEGO) and the pine siskin (PISI) are both in the genus *Spinus*. On another note, both the California towhee (CALT) and spotted towhee (SPTO) are towhees, but are in different genera. CALT are in *Melospiza* and SPTO in *Pipilo*, though both are in the New World sparrow family *Passerellidae*. By looking at the genus, we find that SPTO is actually more closely related to the green-tailed towhee (GTTO). This of course is based on whatever form of classification was used for the taxonomy— whether that is genetic or by appearance.

A Note on Common Names

Some names of bird species are named after people. In too many cases, these names represent people behind racist or sexist actions, such as confederate generals. Birds with Audubon attracted are named after famed ornithologist John James Audubon, who was known to have owned slaves, for example. Though I am not aware of every example, there has been a movement to correct, or at least acknowledge the names and the wrongs associated with them. Some examples include Nuttall's woodpecker, Townsend's warbler, —. Some efforts have been made to change the names, especially changing them to names that reflect important identification features, but the process can be costly and lengthy. Instead, we can acknowledge the history and use different common names. In general, alpha codes still follow the original name. All in all though, it is not the bird who chose the name and the name must be acknowledged as honoring an important part of history— the good and bad.

Notable Experiences and Trends

- **January 14, 2021:** White-crowned sparrow (WCSP) predation by Cooper's hawk (COHA).
- **January 17, 2021:** Two adult great-horned owls (GHOW) communicating with juvenile late at night ≈10pm. Juvenile responded with bill clicks and pathetic noises to the adults' peaceful hooting.

- **January 19, 2021:** Lifers pine siskin and Lincoln's sparrow arrive and feed at feeder on same day.
- **February-March, 2021:** Salmonella outbreak amongst pine siskins. Feeder was taken down for extended periods of time at multiple times over the course of PISI's occurrence in backyard. PISI visited feeders, but mainly stayed away in pine trees. Feeders were put back up after PISI could be heard no more than once a week.
- **March, 2021:** White-crowned sparrow (WCSP) population decreasing as they migrate towards Alaska. Most individuals are adults (as expected) and some days go by with 0-3 immatures.
- **March 9, 2021:** Pair of red-shouldered hawks (RSHA) seen feeding on some rodent (really far away).
- **March 11, 2021:** Turkey vultures migrating at around 30 individuals.
- **March 17, 2021:** Single Swainson's hawk (SWHA) migrating overhead. Also unidentified swifts (later found to be white-throated swifts (WTSW).
- **March 22, 2021:** Record broken for most species seen in one day (29) and an 185 individuals. Most notably including golden-crowned sparrow (GCSP), Lincoln's sparrow (LISP), Audubon's warbler (AUWA), 18 turkey vultures (TUVU), dark-eyed junco (DEJU), red-shouldered hawk (RSHA), European starling (EUST), and red-whiskered bulbul (RWBU).
- **March 23, 2021:** Audubon's warblers present but in very small numbers. *One male and one female seen on this day (totally unexpected!). Sometimes not all will migrate off (though writing this in June, I can say its been months since the last AUWA sighting in the backyard and elsewhere).*
- **March 28, 2021:** Flyover of 7 American white pelicans (AWPE), a total anomaly as pelicans are most associated with water bodies. Possibly migrating, males seen with knob on bill hinting at breeding.
- **March 30, 2021:** 2 hooded orioles arrive, juvenile golden-crowned sparrow seen.

See next page for data

Data

Key:

Migratory ↑ increase ↓ decrease - constant / fewer observations ~
 sporadic

Birds

Species	Alpha Code	Population Trend	Est. # of individuals	Trend Notes
Dark-eyed junco	DEJU	↓	1-3	Infrequent
California Scrub-jay	CASJ	-	2 frequent, minimum 8	Daily
House finch	HOFI	↑	Min 7 ♂ ≈5-6 ♀	Daily
Northern mockingbird	NOMO	-	2-3	Daily
Oak titmouse	OATI	-	Minimum 3	Frequent
White-crowned sparrow	WCSP	↑	Max 10 adult, ≈5-7 immature at peak	Daily, Jan-Mar
California towhee	CALT	-	3	Daily
Audubon's warbler	AUWA	↑	6-10	Common, Jan-Mar
Golden-crowned sparrow	GCSP	↑	Max 3-5	Common
Red-whiskered bulbul	RWBU	-	2-4, pairs	Frequent
Mountain chickadee	MOCH	-	Minimum 2, pair	Frequent
Lesser goldfinch	LEGO	↑	10-14	Daily
Red-tailed hawk	RTHA	-	3-6	Frequent
Northern flicker	NOFL	-	Minimum 2, pair	Rare
Spotted towhee	SPTO	↑	3-4	Frequent
Mourning dove	MODO	↑	8-10, some flyover	Daily
Black phoebe	BLPH	-	2, maybe 3	Daily
Common raven	CORA	↑	≈6-10	Frequent
Nuttall's woodpecker	NUWO	-	Min 3 ♂ ≈2 ♀	Infrequent
<i>Sleasphorus</i>	RUHU/ALHU	↑	see below	see below

Species	Alpha Code	Population Trend	Est. # of individuals	Trend Notes
Allen's hummingbird	ALHU	↑	3-5	Frequent
Rufous hummingbird	RUHU	↑	2-4	Infrequent, Mar
Turkey vulture	TUVU	~ Flyovers	Max 30	Infrequent
American kestrel	AMKE	-	1-2	Rare
American crow	AMCR	↑	≈6-12	Frequent
Acorn woodpecker	ACWO	↑	≈10-14	Daily
Cooper's hawk	COHA	-	2-4	Infrequent
Band-tailed pigeon	BTPI	↑	Minimum 5	Infrequent
(American) Bushtit	BUSH (AMBU)	↑	8-10	Infrequent
Bewick's wren	BEWR	-	1-2	Infrequent
Great-horned owl	GHOW	↑	Minimum 4	Infrequent
Pine siskin	PISI	↑	3-6	Frequent, Mar
Lincoln's sparrow	LISP	↑	2-4	Frequent
Red-crowned parrot	RCPA	↑	5-14	Frequent
Merilin	MERL	/	1	One time
Green-tailed towhee	GTTO	/	1	One time, Jan
Western bluebird	WEBL	↑	3-5	Rare
Hermit thrush	HETH	-	1-2	Rare
Anna's hummingbird	ANHU	↑	3-5	Common
Indian peafowl	INPE	↑	/	/ always heard
Ruby-crowned kinglet	RCKI	-	1-3 ♀	Infrequent, Feb
Red-shouldered hawk	RSHA	↑	Min 3, including pair	Frequent
Cassin's kingbird	CAKI	-	2-4, including pair	Frequent, Mar
European starling	EUST	-	Minimum 3	Rare
Swainson's hawk	SWHA	~ Flyovers	Max ≈50-60	~ Flyover, Mar
White-throated swift	WTSW	~ Flyovers	5-7	Infrequent

Species	Alpha Code	Population Trend	Est. # of individuals	Trend Notes
American white pelican	AWPE	/	7	One Time, Mar
Hooded oriole	HOOR	↑	3-5	Frequent, Mar

Other Notable Wildlife (not included daily)

Speices	Population Trend	Est. # of individuals	Trend Notes
California ground squirrel	↑	2-4	Common
Fox squirrel	↑	2-3	Common
Western fence lizard	↑	2-3	Common
Monarch	↑	/	Infrequent
Cabbage white	↑	3-6	Common

Conclusion

Overall in good shape. This report will act as the control for the April-June 2021 report (ie. population trends). Ideally will see an increase in the number of species seen per day and the final average.

AUWA and WCSP are still present but are significantly dwindling. No longer any male AUWA in breeding plumage or groups circling and nesting in pine trees.

Ratio of adult:immature WCSP has plummeted, now at about 3:1 - 5:1 minimum. As mentioned previously, days have gone by with either no immatures or very few (1-2). Most adult WCSP have left too. Some immatures seen molting to adults.

MERL and GTTO never observed a second time and NOFL, AMKE, WEBL, HETH, and EUST being considered rare.

Overall increase in bird population, with others remaining constant from estimates gathered from inconsistently taken data during September-December, 2020. (Any decreasing population is so labeled likely because they are a migratory species.)

Looking Ahead

- April-June, 2021 Quarterly Report
- Species moving in to breed over summer until as late as fall (ie. HOOR, BHGR, SWTH and RUHU)
- Full departure of current migrating species (ie. AUWA, WCSP, and GCSP)
- Warm summer months make birding less ideal.
- Will further develop *Other Notable Wildlife* segment for future quarterly reports.

Front cover

Top left to right: Northern mockingbird, white-crowned sparrow (juvenile),
Audubon's warbler (breeding male)

Bottom: Golden-crowned sparrow (breeding adult), spotted towhee, house finch (female and male)