

Backyard Wildlife Project: Quarterly Report April-June, 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 species this quarter include:

- Hooded orioles (HOOR) further establish a population. HOOR are predicted to leave by September for central Mexico. Adult breeding males and females seen, as well as first-spring males.
- As we enter the breeding season, many birds begin exhibiting breeding behaviors— mating, nest material collection, and territorial aggression.
 - Northern mockingbirds (NOMO) begin nesting. Starting by the week of April 1, 2021, territorial aggression is extreme as males stake out territory and chase off contenders. Males and females pair up and designate territory. Males spend around 2 seconds on each call type. At this point, no nest building has began, but the activity has been reported by fellow birders. Nest building by some individuals begins by April 9. No chicks or fledglings observed yet.
 - Probable nest site in corner tree at 3367 Rubio Crest Drive, breeding adults frequent lamp post and loquat tree.
 - Band-tailed pigeon (BTPI) observed collecting nest material (branches of Indian bottlebrush) on April 7. Pair frequently seen resting in sugar gum. Nest in olive tree confirmed on April 9. (*See notable observations and trends on page — for more information*).
 - House finch (HOFI) nest in rafters confirmed April 20 (probable around April 15 based on behaviors and how frequent HOFIs visited site). Minimum 3 chicks. Both sexes fed chicks and frequented nearby loquat tree and sugar gum. Adult male frequented nest site more often than female.
 - California scrub-jay (CASJ) pair observed collecting nest material (stick). Pair flies off down the street. Unsure if one individual is Polka (individually identified California scrub-jay with white spot visible on left side of neck).
- Migrating species: White-crowned sparrow (WCSP), Lincoln's sparrow (LISP), golden-crowned sparrow (GCSP), Swainson's hawk (SWHA), Audubon's warbler (AUWA), pine siskin (PISI), hooded oriole (HOOR), black-chinned hummingbird (BCHU), Cassin's kingbird (CAKI), rufous hummingbird (RUHU), black-headed grosbeak (BHGR), Pacific-slope flycatcher (PSFL), western tanager (WETA), *probable* Wilson's warbler (WIWA), Swainson's thrush (SWTH), and willow flycatcher (WIFL)
 - Total 16 migrants
- New species (Total 4): Black-chinned hummingbird (BCHU), brown-headed cowbird (BHCO), Pacific-slope flycatcher (PSFL), and Swainson's thrush SWTH).

- Increased populations were most common, with some constant. There were more instances of decreased populations compared to the January-March quarterly report. This is mainly due to the departure of migrants such as WCSP, AUWA, LISP, GCSP, and PISI. Decreased populations are also observed in resident species such as CASJ, AMKE, DEJU, and SPTO. This may be related to breeding behavioral patterns (DEJU). Note these species for the next quarterly report, as the decreased populations at this time will likely change.
 - The observed population trends for this report utilize the January-March quarterly report as a benchmark. Any populations seen here with a decreasing population are likely so labeled because they were either previously listed as having an increasing or constant observed population trend. Alternatively, the species could have had a decreasing population then as well if the population was observed as decreasing throughout the three month period or were decreasing during the inconsistent data collection from September-December, 2020.

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 6 months, on and off since September 10, 2020.

Number of bird species recorded in area (all time)

55 species

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

20 species

Number of observers

Primarily Morgan G.

With assistance from three other observers

Bird Species Statistics

- Average number of species per month:
 - April: 20 species
 - May: 15 species
 - June: 10 species
 - Total average: 15
- Average estimated number of individuals:
 - Minimum \approx 210 individuals
 - Maximum \approx 304 individuals
 - Average estimation \approx 257 individuals
- New species = 4
- Migrants = 16
- Total number of species = 50

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).

Notes on the Counting Processes

Indian peafowl (INPE): Known population down the street on Maiden Lane. Easily and frequently heard. Heard individuals would normally add a tally mark to the count, but because the number of heard individuals does not reflect the whole population, individuals are not tallied unless physically observed.

Red-crowned parrot (RCPA): Same counting process for INPE as RCPA are more often heard than seen. If individuals are physically observed, then the count is tallied. RCPA individuals that are heard are not counted as it does not accurately reflect the RCPA population.

Rufous hummingbird/Allen's hummingbird (RUHU/ALHU) (*Selasphorus*): RUHU male versus ALHU male easily distinguished by back color (male RUHU = orange, male ALHU = green). Females are nearly impossible to distinguish due to their color and body shape similarities. The only difference is the markings on the rectrices, which is not visible most of the time. Any female ALHU or RUHU is marked down as RUHU/ALHU or *Selasphorus*. Males are

identified by species. After June 20 however, RUHU have migrated out and any RUHU/ALHU is known to be an ALHU. Thus, both male and females are tallied as ALHU.

Hummingbirds- Anna's (ANHU) and black-chinned (BCHU): Identification may not always be 100% accurate, especially with females and immatures. I have tried my best to accurately identify the hummingbird species, consulting with the community science-based identification app iNaturalist. However, hummingbirds may still remain misidentified. This may only affect the population size and not the number of species.

House finch (HOFI): Adult males and females easily distinguishable, though with nesting, differentiating between adult females and juveniles becomes increasingly hard. Juveniles are positively identified with various indicators— immature and/or molting feathers mainly. As juveniles continue to age however, plumage becomes increasingly similar to that of adult female. Thus, some female tallies may actually be juveniles, and vice versa. Prior to breeding, the number of adult females was estimated to be 5-6. Current tallies of adult females is at 7-9. It is likely that this number includes juveniles not properly identified. I have done my best to accurately reflect the HOFI population, just note that the adult female tally may be slightly higher due to inaccuracies. The total observed population trend of HOFI will not be affected.

Determining Observed 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 attached 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 and 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 Observations and Trends

- **April 1, 2021:** Mourning dove (MODO) predation by Cooper's hawk (COHA)
Northern mockingbirds (NOMO) exhibit breeding behavior with territorial aggression and singing
- **April 2, 2021:** Black-chinned hummingbird (BCHU) arrives for first recorded season in backyard
- **April 5, 2021:** Pair of red-tailed hawks (RTHA) seen in nearby pine tree
Northern mockingbirds begin collecting nest material
- **April 7, 2021:** Band-tailed pigeon (BTPI) seen collecting a stick for nest material
- **April 9, 2021:** Band-tailed pigeon nest in olive tree confirmed, one egg
- **April 12, 2021:** Band-tailed pigeon nest unsuccessful, 3+ day old egg falls out of nest and breaks
Cassin's kingbird pair seen fighting off acorn woodpecker and turkey vulture, probable nest in nearby pine
- **April 13, 2021:** Black-headed grosbeaks (BHGR) arrive for second recorded season in backyard
- **April 12, 2021:** Pacific-slope flycatcher arrives for first recorded season in backyard
- **April 20, 2021:** Western tanager (WETA) arrives for second recorded season in backyard
House finch (HOFI) nest located in house rafters with 3 chicks. Nest near loquat tree, which parents and other house finches frequent.
- **April 21, 2021:** Wilson's warbler (WIWA) arrive for first recorded season in backyard. Known population in nearby canyon.
California towhees (CALT) mate after long suspected breeding behavior (nest material collection)

- **April 29, 2021:** House finch nest has 1 remaining chick (unsure if other two fledged or succumbed to predation). Chick has fully developed juvenile plumage, beak still resembles that of a chick, capable of flight.
- **May 7, 2021:** Brown-headed cowbirds (year-round) arrive for first time in backyard
- **May 12, 2021:** Swainson's thrush (SWTH) arrives for first recorded season in backyard
- **May 16, 2021:** Red-shouldered hawk (RSHA) seen carrying dead mouse high up in tree (sugar gum). Northern mockingbird chases hawk out.
- **May 17, 2021:** Mourning dove (MODO) predation by Cooper's hawk (COHA)
- **May 19, 2021:** Willow flycatcher arrives for first recorded season in backyard
- **June 4, 2021:** Prior: Black Phoebe (BLPH), previously seen daily at neighbor's pool, not coming nearly as often (last sighting May 5, 2021)
Black Phoebe returns nearly a month after disappearance
- **June 18, 2021:** Black phoebe appearance (first since June 4, 2021)
Blue-lined skink appears (total reptile species count seldom increases)
- **June 19, 2021:** Hatching year house finches, now juveniles, are joining house finch society!

See next page for data

Data

Key:

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

Birds

Species	Alpha Code	Observed population trend	Est. # of individuals	Trend Notes
White-crowned sparrow	WCSP	↓	<12 total	Common
House finch	HOFI	↑	≈10 ♂ ≈6 ♀ ≈3-5 juvenile	Daily
California scrub-jay	CASJ	-, ↓	2 (pair)	Daily
Northern mockingbird	NOMO	↑	4-6	Daily
Spotted towhee	SPTO	↓	3-4	Frequent
Oak titmouse	OATI	-	3	Daily
Mouring dove	MODO	↑	12-16	Daily
Acorn woodpecker	ACWO	↑	10-12	Daily
Common raven	CORA	↑	6-10	Frequent
Anna's hummingbird	ANHU	↑	4-5	Daily
Lincoln's sparrow	LISP	↓	3-4	Infrequent
Nuttall's woodpecker	NUWO	-	3-5	Infrequent
Lesser goldfinch	LEGO	↑	10-14	Daily
Red-shouldered hawk	RSHA	-	3-4	Frequent
Red-crowned parrot	RCPA	↑	10-14	Daily
Band-tailed pigeon	BTPI	↑	4-6	Frequent
American kestrel	AMKE	↓	1-2	Rare
California towhee	CALT	↑	3-6	Daily
Cooper's hawk	COHA	-	3-5	Frequent

Species	Alpha Code	Observed population trend	Est. # of individuals	Trend Notes
Bewick's wren	BEWR	-	1-3	Rare
Golden-crowned sparrow	GCSP	↓	1-2	Infrequent
Swainson's hawk	SWHA	↑ Flyover	20	~
Audubon's warbler	AUWA	↓	1-3	Rare
Allen's hummingbird	ALHU	↑	4-5	Frequent
Black phoebe	BLPH	↓	1-3	Infrequent
Indian peafowl	INPE	↑	/	Daily
Pine siskin	PISI	↓	1-4	Frequent
Hooded oriole	HOOR	↑	3-5	Common
Great-horned owl	GHOW	↑	3-6	Infrequent
Black-chinned hummingbird	BCHU	↑	3-5	Frequent
Turkey vulture	TUVU	- Flyover	<10	Infrequent
Cassin's kingbird	CAKI	↑	2-4	Frequent
Costa's hummingbird	COHU	/	1-3	Infrequent
Red-tailed hawk	RTHA	- Flyover	3-6	Infrequent
European starling	EUST	-	2-4	Infrequent
American crow	AMCR	↑	6-12	Common
Rufous hummingbird	RUHU	↑	2-4 ♂	Frequent
Bushtit	BUSH	↑	8-12	Frequent
Red-whiskered bulbul	RWBU	-	2-4	Infrequent
Black-headed grosbeak	BHGR	↑	3-6	Frequent
Dark-eyed junco	DEJU	↓	1-3	Rare
Pacific-slope flycatcher	PSFL	-	1-2	Frequent
White-throated swift	WTSW	- Flyover	5-7	~
Western tanager	WETA	/	1-2	Two times

Species	Alpha Code	Observed population trend	Est. # of individuals	Trend Notes
Wilson's warbler	WIWA	/	1-2	Two times
Brown-headed cowbird	BHCO	/	2 (pair)	One time
Swainson's thrush	SWTH	/	1-2	Two times
Willow flycatcher	WIFL	/	1	Two times
Mountain chickadee	MOCH	↑	2-4	Frequent
Western bluebird	WEBU	-	3-5	Rare

Other Notable Wildlife

Species	Observed 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
Pale swallowtail	~	~	Infrequent
Valley carpenter bee	↑	3-5	Infrequent
Western honey bee	↑	30-50?	Daily
Umbar skipper	-	<6	Frequent
Fiery skipper	-	<6	Frequent
California sister	~	2-5	Frequent
- termites	~	≈ 40	~
American black bear	↑	5-7	Infrequent
Bobcat	-	3-5	Infrequent
California mule deer	↑	6-10	Infrequent
Coyote	-	3-6	Infrequent
Flame skimmer	↑	2-5	Frequent

Speices	Observed population trend	Est. # of individuals	Trend Notes
- Bats	-	2-5	Infrequent
Merriam's chipmunk	/	1	One time
Blue-lined skink	/	1	One time

Conclusion

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

Northern flicker (NOFL), merlin (MERL), green-tailed towhee (GTTO), Hermit thrush (HETH), ruby-crowned kinglet (RCKI), and American white pelican (AWPE) were seen during the last report (January-March), but were not seen this time.

BCHU, BHGR, PSFL, WETA, WIWA, BHCO, SWTH, and WIFL are all new arrivals not seen previously during the months of January-March.

BHCO (luckily) only observed one time. WIWA, WETA, SWTH, and WIFL observed only twice. AMKE, BEWR, AUWA, DEJU, and WEBU are all considered rare.

Overall increase in bird population, with most of the decreases being present in departing migratory species (ie. WCSP, GCSP, LISP, AUWA, and PISI).

Looking Ahead

- July-September, 2021 Quarterly Report
- Species coming in for spring migration will start to breed and will leave as late as fall (ie. HOOR, BHGR, and CAKI). Hopefully we will be able to see some evidence of breeding (nesting behaviors, juvenile birds).
- Most, if not all, individuals of migrating species that came for fall migration have departed (ie. AUWA, WCSP, and GCSP).
- Warm summer months make birding less ideal. Overall number of species seen per day may decrease due to less time outside monitoring caused by intense heat.

Front cover

Top left to right: Lincoln's sparrow, Merriam's chipmunk, willow flycatcher

Middle: American black bear, hooded oriole (1st spring male), western tanager

Bottom: Swainson's thrush, black-headed grosbeak (breeding male), house finch (juvenile)