Module 10: Garden Ecology

1-2019

Birds in the Urban Landscape

Center for Urban Resilience

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Birds in the Urban Landscape
Introductions

• Maria Curley Auger
  – LMU-CURes Research Asst, Managing Editor – Cities and the Environment (CATE) Journal
  – LMU-CEEL Education Specialist
  – Certified Teacher
  – Curriculum Writer
  – Teacher Professional Development
  – Past Life: 20 years Customer Svc Management, Corporate Training – Utilities -Sprint, FPC (FL) and Banking (MA)
  – Passions: teaching, birding, hiking, rock climbing, reading
  – Obsessions: owls, hummingbirds, chocolate
  – Favorite place to Travel: Costa Rica, Sedona, AZ
Introductions

• Lisa Fimiani
  – LMU-CURes Gottlieb Environmental Leadership Fellow (*Dan and Susan Gottlieb Foundation*)
  – Board Member, Friends of Ballona Wetlands  [http://www.ballonafriends.org/](http://www.ballonafriends.org/)
  – Former Executive Director, Friends of Ballona Wetlands (7 years)
  – Former Board Member, Los Angeles Audubon Society (10 years)
  – Former Board Member, California Audubon (6 years)
  – Passions: teaching, birding, native gardening
  – Favorite place(s) to Travel: Africa, Nebraska (Sandhill cranes migration)
Introductions

• Dr. Pete Auger
  – LMU-CURes Senior Scientist, Field Biologist, Professor
  – LMU – 7 years
  – Boston College – 14 years
  – Helped found the Urban Ecology Institute (UEI) in Boston … the model for CURes in Los Angeles!
  – Former HS Teacher, Baseball & Football Player and Coach
  – Former Baseball Player on the Cotuit Kettleiers
  – Passions: teaching, reading, flying drones, technology, building field equipment, sports (Boston Red Sox & Patriots; LA Dodgers & Rams!)
  – Favorite place to Travel: Costa Rica!
On Guardian Angels

Perhaps my angels have all along been birds.
How often am I out of their sight?
Even when I'm indoors, they come
to the window, seek me, keep watch.

So what if I can't understand their speech?
As long as the dawn hears the rooster & the waves
take their cue from the gulls, I too can have
their music without demanding sense of it.

In the main, my angels are small, brown sparrows,
who fly like tiny grapeshot & fastidiously watch,
but call little attention to themselves. They even seem
indifferent; but isn't that a perfect disguise?

By Richard Beban
Topics of Discussion

- Bird Biodiversity – Indicator Species
- Bird Classification - Taxonomy
- Bird Identification & Sociobiology
- Bird Migration – the Pacific Flyway…
- Focus on 10 Birds
- Getting Involved
  - The Power of Citizen Science
What do birds tell us about the health of an ecosystem?

**Biodiversity:** biological diversity in an environment is indicated by numbers of different species of plants and animals

**Monoculture:** describes systems that have very low biological diversity
Bird Classification

- Nearly 30 orders of birds exist.
- The largest order of birds includes the perching birds (songbirds). There are nearly 5000 species of perching birds.
passerines

(All the songbirds such as sparrows, warblers, cardinals, chickadees, mockingbirds, vireos, and many other perching birds)

the other twenty-four orders

gulls
doves
parrots
hummingbirds
woodpeckers
Orders of Birds

- Strigiformes: owls
- Coraciiformes: kingfishers
- Piciformes: woodpeckers
- Apodiformes: hummingbirds
- Passeriformes: songbirds
- Gaviiformes: loons
- Columbiformes: doves and pigeons
- Galliformes: grouse, quails, pheasants and turkeys
- Psittaciformes: mawcaws and parrots
- Ciconiiformes: herons
- Falconiformes: hawks, eagles, and vultures
- Struthioniformes: emus, rheas, ostriches, and kiwis, cassowaries
- Anseriformes: geese, swans and ducks
- Charadriiformes: sandpipers and seagulls

www.exploringnature.org ©Sheri Amsel
Bird Classification - Taxonomy

As examples, a finch, a hawk, and a human are classified and named in the table below:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Goldfinch</th>
<th>Cooper's Hawk</th>
<th>Human</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kingdom</td>
<td>Animal</td>
<td>Animal</td>
<td>Animal</td>
</tr>
<tr>
<td>Phylum</td>
<td>Chordata</td>
<td>Chordata</td>
<td>Chordata</td>
</tr>
<tr>
<td>Class</td>
<td>Aves</td>
<td>Aves</td>
<td>Mammalia</td>
</tr>
<tr>
<td>Order</td>
<td>PASSERIFORMES</td>
<td>FALCONIFORMES</td>
<td>PRIMATE</td>
</tr>
<tr>
<td>Family</td>
<td>Finches (Fringillidae)</td>
<td>Kites, Eagles and Hawks (Accipitridae)</td>
<td>Hominidae</td>
</tr>
<tr>
<td>Genus &amp; species</td>
<td><em>Carduelis tristis</em></td>
<td><em>Accipiter cooperii</em></td>
<td><em>Homo sapiens</em></td>
</tr>
<tr>
<td>Common name</td>
<td>American Goldfinch</td>
<td>Cooper's Hawk</td>
<td>Human</td>
</tr>
</tbody>
</table>
Birds Come in all sizes and shapes and they act differently!

- Soaring birds
- Perching Birds
- Flightless Birds
- Birds that Migrate … some that don’t …
- Birds that nest on the ground
- Birds that nest on cliffs, trees, or buildings
- Aquatic birds
- Pelagic birds
- Terrestrial birds …and the list goes on …
Bird Identification

- Visual markings, color, iridescence …
- Vocalizations
- Habitat (wetland, urban, cliffs …)
- Temporal - time of year - seasonal migrations
- Nesting characteristics
- Diet - omnivores, frugivores, carnivores...
- BEHAVIOR
  - **SOCIOBIOLOGY**: a branch of biology that deals with social behavior, and also draws from ethology, anthropology, evolution, zoology, archaeology, population genetics, and other disciplines.
Bird Identification
Do you know this bird?
See Page 281 of *Birds of Southern California* Book
Bird Identification
Saturday Bird Count at the
Ballona Freshwater Marsh (FWM)

• Usually 1st Saturday of each month – posted on the CURes website
• Starts at 7am (sometimes earlier, during certain times of the year)
• Meet at the gate on Jefferson Blvd, at the southwestern end of the
  woodchip trail (where the gate to the back maintenance road begins)
• Binoculars are good to have, but not a must (we will share ours)
• A camera is nice too, but we will share our pics
• Be sure to provide your email address
• Come Join Us!
Highlights from Sept 29, 2018 Bird Count
Highlights from Sept 29, 2018 Bird Count

Juvenile Black-crowned Night Heron
*Nycticorax nycticorax*
Highlights from Sept 29, 2018 Bird Count

Great Egret
Ardea alba
Highlights from Sept 29, 2018 Bird Count

Great Egret
Ardea alba

Northern Shoveler
Spatula clypeata
Highlights from Sept 29, 2018 Bird Count

White-tailed Kite
*Elanus leucurus*
Highlights from Sept 29, 2018 Bird Count

Great Egret
Ardea alba
White-tailed Kite
Elanus leucurus
Cassin’s Kingbird
Tyrannus vociferans
<table>
<thead>
<tr>
<th>Bird List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballona FWM and Playa Vista Riparian Corridor Bird List Jan 2019</td>
</tr>
<tr>
<td>BALLONA FRESHWATER WETLANDS BIRD LIST</td>
</tr>
<tr>
<td>Updated Jan 2019 (259 spp.) Includes all species observed utilizing these species in the Freshwater Marsh and Riparian Corridor. Species observed high overhead only are not included. Years when a species has been confirmed or strongly suspected of nesting, attempting to nest, or establishing a breeding territory are indicated in parentheses. Unusual species are marked with an asterisk (*) and reports of sightings would be appreciated (see contact information below). This is a screened list. Only reliable observations of species utilizing the marsh in some manner are counted. Errors or additions should be reported to the Preserve Manager, Edith Read (<a href="mailto:marshmistress@msn.com">marshmistress@msn.com</a>).</td>
</tr>
<tr>
<td><strong>BIRDS</strong></td>
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<tr>
<td><strong>BITTERNS AND HERONS</strong></td>
</tr>
<tr>
<td>American Bittern*</td>
</tr>
<tr>
<td>Least Bittern (2005-2016, 2018)</td>
</tr>
<tr>
<td>Great Blue Heron*</td>
</tr>
<tr>
<td>Great Egret*</td>
</tr>
<tr>
<td>Snowy Egret*</td>
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<tr>
<td>Little Blue Heron*</td>
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<tr>
<td>Cattle Egret*</td>
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<tr>
<td>Green Heron (2005, 2008-2018)</td>
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<tr>
<td>Black-crowned Night-Heron*</td>
</tr>
<tr>
<td>Yellow-crowned Night-Heron*</td>
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<tr>
<td><strong>IBISES</strong></td>
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<tr>
<td>White-faced Ibis*</td>
</tr>
<tr>
<td><strong>NEW WORLD VULTURES</strong></td>
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<tr>
<td>Turkey Vulture*</td>
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<tr>
<td><strong>OSPREY</strong></td>
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<tr>
<td>Osprey*</td>
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<tr>
<td><strong>KITES AND HAWKS</strong></td>
</tr>
<tr>
<td>White-tailed Kite*</td>
</tr>
<tr>
<td>Northern Harrier*</td>
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<tr>
<td>Sharp-shinned Hawk*</td>
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<tr>
<td>Cooper’s Hawk*</td>
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<tr>
<td>Red-shouldered Hawk*</td>
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<tr>
<td>Swainson’s Hawk*</td>
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<tr>
<td>Red-tailed Hawk*</td>
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<tr>
<td>Ferruginous Hawk*</td>
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<tr>
<td><strong>BARN OWLS</strong></td>
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<tr>
<td>Barn Owl*</td>
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<tr>
<td><strong>TYPICAL OWLS</strong></td>
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<tr>
<td>Great Horned Owl*</td>
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<tr>
<td>Burrowing Owl*</td>
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<tr>
<td>Short-eared Owl*</td>
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<tr>
<td><strong>KINGFISHERS</strong></td>
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<tr>
<td>Belted Kingfisher*</td>
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<tr>
<td><strong>WOODPECKERS AND ALLIES</strong></td>
</tr>
<tr>
<td>Acorn Woodpecker*</td>
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<tr>
<td>Downy Woodpecker*</td>
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<tr>
<td>Nuttall’s Woodpecker*</td>
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<tr>
<td>Northern Flicker*</td>
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<tr>
<td>“Red-shafted” Flicker*</td>
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<tr>
<td>“Yellow-shafted” Flicker*</td>
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<tr>
<td><strong>SWANS, GEESE AND DUCKS</strong></td>
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<tr>
<td>Fulvous Whistling-Duck*</td>
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<tr>
<td>Snow Goose*</td>
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<tr>
<td>Ross's Goose*</td>
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<tr>
<td>Greater White-fronted Goose*</td>
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<tr>
<td>Brant*</td>
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<tr>
<td>Cackling Goose*</td>
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<tr>
<td>Canada Goose (2006-2018)</td>
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<tr>
<td>Mute Swan (introduced)</td>
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<tr>
<td>Tundra Swan*</td>
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<tr>
<td>Egyptian Goose (introduced)</td>
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<tr>
<td>Wood Duck*</td>
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<tr>
<td>Mandarin Duck (introduced)</td>
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<tr>
<td>Blue-winged Teal*</td>
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<tr>
<td>Northern Shoveler*</td>
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<tr>
<td>Gadwall*</td>
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<tr>
<td>American Wigeon*</td>
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<tr>
<td>Mallard (2003-2018)</td>
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<tr>
<td>Northern Pintail*</td>
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<tr>
<td>Green-winged Teal*</td>
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<tr>
<td>Canvasback*</td>
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<tr>
<td>Redhead*</td>
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<tr>
<td>Ring-necked Duck*</td>
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<tr>
<td>Greater Scaup*</td>
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<tr>
<td>Lesser Scaup*</td>
</tr>
<tr>
<td>Surf Scoter*</td>
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<tr>
<td><strong>FORNS</strong></td>
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<tr>
<td><strong>NEW WORLD WILLET</strong></td>
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<tr>
<td><strong>GULLS, TERNs AND ALLIES</strong></td>
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<tr>
<td>Bonaparte's Gull*</td>
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<tr>
<td>Mew Gull*</td>
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<tr>
<td>Ring-billed Gull*</td>
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<tr>
<td>Western Gull*</td>
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<tr>
<td>California Gull*</td>
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<tr>
<td>Herring Gull*</td>
</tr>
<tr>
<td>Glacous-winged Gull*</td>
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<tr>
<td>Least Tern</td>
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<tr>
<td>Caspian Tern*</td>
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<tr>
<td>Forster's Tern*</td>
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<tr>
<td>Elegant Tern*</td>
</tr>
<tr>
<td>Black Skimmer*</td>
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<tr>
<td><strong>LOONS</strong></td>
</tr>
<tr>
<td>Red-throated Loon*</td>
</tr>
<tr>
<td>Pacific Loon*</td>
</tr>
<tr>
<td>Common Loon*</td>
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<tr>
<td><strong>CORMORANTS</strong></td>
</tr>
<tr>
<td>Double-crested Cormorant*</td>
</tr>
<tr>
<td><strong>PLOVERS</strong></td>
</tr>
<tr>
<td>American White Pelican*</td>
</tr>
<tr>
<td>Brown Pelican*</td>
</tr>
<tr>
<td><strong>HUMMINGBIRDS</strong></td>
</tr>
<tr>
<td>Black-chinned Hummingbird*</td>
</tr>
<tr>
<td>Anna's Hummingbird (2006-2018)</td>
</tr>
<tr>
<td>Costa's Hummingbird*</td>
</tr>
<tr>
<td>Rufous Hummingbird*</td>
</tr>
<tr>
<td>Allen's Hummingbird (2006-2018)</td>
</tr>
<tr>
<td><strong>RAILS AND ALLIES</strong></td>
</tr>
<tr>
<td>Ridgway's Rail*</td>
</tr>
<tr>
<td>Virginia Rail (2009-2016)</td>
</tr>
<tr>
<td>Sora</td>
</tr>
<tr>
<td>American Coot (2003-2018)</td>
</tr>
<tr>
<td><strong>STILTS AND AVOCETS</strong></td>
</tr>
<tr>
<td>Black-necked Stilt (2003, 2007-2016)</td>
</tr>
<tr>
<td>American Avocet*</td>
</tr>
<tr>
<td><strong>SWIFTS</strong></td>
</tr>
<tr>
<td>Black Swift*</td>
</tr>
<tr>
<td>Vaux's Swift*</td>
</tr>
<tr>
<td>White-throated Swift*</td>
</tr>
<tr>
<td><strong>GREBES</strong></td>
</tr>
<tr>
<td>Pied-billed Grebe*</td>
</tr>
<tr>
<td>Horned Grebe*</td>
</tr>
<tr>
<td>Eared Grebe*</td>
</tr>
<tr>
<td>Western Grebe*</td>
</tr>
<tr>
<td><strong>PIGEONS AND DOVES</strong></td>
</tr>
<tr>
<td>Rock Pigeon (introduced)</td>
</tr>
<tr>
<td>Eurasian Collared-Dove (introduced)</td>
</tr>
<tr>
<td>White-winged Dove*</td>
</tr>
<tr>
<td>Mourning Dove (2003-2018)</td>
</tr>
<tr>
<td><strong>NIGHTJARS</strong></td>
</tr>
<tr>
<td>Lesser Nightjar*</td>
</tr>
<tr>
<td>Common Poorwill*</td>
</tr>
<tr>
<td><strong>PLOVERS</strong></td>
</tr>
<tr>
<td>American White Pelican*</td>
</tr>
<tr>
<td>Brown Pelican*</td>
</tr>
</tbody>
</table>
Osprey Pole coming soon to LMU!
Osprey Pole being installed at BHS on Cape Cod
Osprey Pole being installed at BHS on Cape Cod
Live Bird Cams on the CURes Website!
Visit the link via https://academics.lmu.edu/cures/research/animalbehavior/
CURes Staff at the LMU Open House Sat 10/7/18
Recruiting Future Environmental Stewards!

Great Egret  
**Ardea alba**

White-tailed Kite  
**Elanus leucurus**
CELEBRATING 2018 AS THE YEAR OF THE BIRD

https://www.nationalgeographic.org/projects/year-of-the-bird/

“IF YOU TAKE CARE OF BIRDS, YOU TAKE CARE OF MOST OF THE ENVIRONMENTAL PROBLEMS IN THE WORLD.”

Thomas Lovejoy
Biologist and Godfather of Biodiversity

Watch these videos for more inspiration:

TheCornellLab of Ornithology
Exploring and Conserving Nature

https://youtu.be/c0caVjDTyZo

https://www.youtube.com/watch?v=Y05Lajbebq4

https://www.dailymail.co.uk/news/article-5220829/Microlight-pilot-dubbed-birdman-flies-geese.html

EXTRAORDINARY FOOTAGE SHOWS MICROLIGHT PILOT DUBBED ‘BIRDMAN’ TAKING TO THE SKIES
Get your bird on!

Birds are the fly-through eye candy that tie habitats and neighborhoods together

For the first time, scientists at the Cornell Lab of Ornithology have documented migratory movements of bird populations spanning the entire year for 118 species throughout the Western Hemisphere. The study finds broad similarity in the routes used by specific groups of species—vividly demonstrated by animated maps showing patterns of movement across the annual cycle.


https://www.allaboutbirds.org/mesmerizing-migration-map-which-species-is-which/
Bird Migration Flyways

- Atlantic Flyway
- Mississippi Flyway
- Central Flyway
- Pacific Flyway
4 Billion Birds Will Fly Over North America This Fall (2018)

For the first time ever we have an idea of just how busy the skies are at this time of year. Most birds migrate at night, out of sight and beyond earshot. To count these enormous flights, Cornell Lab scientists used weather radar and big data analyses. Their estimates also give us an idea of the birds’ overall survival rates. Read more about this cutting-edge research.
THE POWER OF CITIZEN SCIENCE
Citizen Science
(Birding and Wildlife)

- **E-bird**
  - [www.ebird.org](http://www.ebird.org)
- **iNaturalist**
  - [http://www.inaturalist.org/](http://www.inaturalist.org/)
- **Project FeederWatch (November to April)**
  - [www.feederwatch.org](http://www.feederwatch.org)
- **Christmas Bird Count (CBC) (December)**
- **Great Backyard Bird Count (GBBC) (February)**
  - [http://gbbc.birdcount.org/about/](http://gbbc.birdcount.org/about/)
Embrace the WINTER.
Count Feeder Birds for SCIENCE!

Join, Renew or Donate
Project FeederWatch

What is a Project FeederWatch?

Project FeederWatch is a citizen science program where birders around the world conduct winter-long bird counts at bird feeders and enter their totals on their Project FeederWatch account. They can conduct tallies as little as one time during the week, or as many times as they want, but at least a minimum of 15 minutes each observation. The counts tell scientists about bird abundance or absence, which are key indicators of the health of an ecosystem. For this year, the count runs from:

- November 10, 2018 to April 5, 2019.

If you are new to Project FeederWatch, sign up on-line at the link below and receive a starter kit and beautiful bird poster.

Project FeederWatch: https://feederwatch.org/
# Project FeederWatch

## Tally Sheet

The 2 consecutive dates of this count are _______ and _______.

### Bird Counts

Use the space to the right to tally the number of individuals of each species that you see simultaneously. Report your counts to Project FeederWatch at [feederwatch.org](http://feederwatch.org) (do not send in this Tally Sheet). Report only the highest number seen simultaneously—do not add your running tally together.

**Species name**

<table>
<thead>
<tr>
<th>Example: House Finch</th>
<th>Highest number seen at one time</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>12 (enter this number online)</td>
</tr>
</tbody>
</table>

### Effort

When did you watch your FeederWatch count site?

- [ ] Day 1, morning
- [ ] Day 1, afternoon
- [ ] Day 2, morning
- [ ] Day 2, afternoon

Estimate the cumulative time you watched your FeederWatch count site.

- [ ] Less than 1 hour
- [ ] 1 to 4 hours
- [ ] 4+ to 8 hours
- [ ] More than 8 hours

### Snow depth

Mark the average conditions during the two-day count.

- [ ] None
- [ ] Under 5 cm (under 2")
- [ ] 5 cm to 15 cm (2" to 6")
- [ ] Over 15 cm (over 6")

### Behavior Interactions

Use the space below to note if a bird attempted to displace or depredate another bird and if the attempt was successful.

<table>
<thead>
<tr>
<th>Source species</th>
<th>Behavior</th>
<th>Target species</th>
<th>Successful?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Jay</td>
<td>displaced</td>
<td>American Goldfinch</td>
<td>No</td>
</tr>
</tbody>
</table>

### Eye disease

Watch for eye disease in House Finches, Purple Finches, Evening Grosbeaks, or goldfinches and note how many birds you see with the disease.

### Helpful hints

- Under “Species name,” list the birds you see most often. Then make copies of your tally sheet.
- Print tally sheets from our website at: [feederwatch.org/about/detailed-instructions/#prepare-a-tally-sheet](http://feederwatch.org/about/detailed-instructions/#prepare-a-tally-sheet).
Project FeederWatch Rules

- Choose count site
- Use same site each time
- Count one session per week
- One session = 2 consecutive days
- Count at the same time each day / same days each week
- Allow 5 days between counting sessions
- Only tally most birds of that species at one time (don’t total all)
- Submit counts on-line
What is a Christmas Bird Count?

The longest running Citizen Science survey in the world (over 115 years), the annual Christmas Bird Count provides critical data on population trends. Tens of thousands of participants know that it is also a lot of fun. Data from the over 2,300 circles are entered after the count and become available to query under the Data & Research link on the following websites.

Information on CBC's nationwide:
http://www.audubon.org/bird/cbc/

Information on CBC's in California:
http://natureali.org/cbcs.htm
Great Backyard Bird Count (GBBC)

What is the GBBC?

The Great Backyard Bird Count started in 1998, and is an annual four-day event every February over President’s Day weekend, that engages bird watchers of all ages in counting birds to create a real-time snapshot of where the birds are.

**GBBC checklists can be accepted from anywhere in the world!**

Everyone is welcome--from beginning bird watchers to experts. It takes as little as 15 minutes on one day, or you can count for as long as you like each day of the event. It’s free, fun, and easy—and it helps the birds.

Participants tally the number of individual birds of each species they see during their count period. They enter these numbers on the GBBC website.

*The Great Backyard Bird Count is led by the Cornell Lab of Ornithology and National Audubon Society, with Canadian partner Bird Studies Canada and sponsorship from Wild Birds Unlimited.*

http://www.birdsource.org/gbbc
I counted 14 species in my yard
https://ebird.org/gbbc/view/checklist/S42940506
Birding Resources

• Apps
  – Audubon Bird Guide – free (phone)
  – iBird PRO app - $14.95 (phone)
  – Merlin Bird ID app - free (phone)
• American Birding Conservancy (ABC) https://abcbirds.org/
• National Audubon Society (NAS) http://www.audubon.org/
• Audubon California http://ca.audubon.org/
• Cornell Lab of Ornithology
  – www.birds.cornell.edu
  – http://www.allaboutbirds.org/
• Macauley Library (Cornell)
  – https://macaulaylibrary.org/browse/taxa/aves
• The Institute for Bird Populations http://www.birdpop.org/
• Join a Local Audubon Birding Group
  – Los Angeles Audubon Society http://losangelesaudubon.org
  – San Fernando Audubon Society https://www.sfvaudubon.org/
  – Santa Monica Bay Audubon Society https://smbasblog.com/
• Join a Local Birding Email Group
  – LACoBirds https://groups.yahoo.com/neo/groups/LACoBirds/info
  – CalBirds https://groups.yahoo.com/neo/groups/CALBIRDS/info?referrer=LACoBirds
Birding Resources

– Bird Reference Books

2) Birds of the Los Angeles Region, by Kimball L. Garrett, Jon L. Dunn, and Bob Morse, 2006
3) Birds of North America, By Kenn Kaufman, 2000
4) Birds of Southern California, by Kimball L. Garrett, Jon L. Dunn, Brian E. Small, 2012
5) Field Guide to the Birds – Western Region, by Donald & Lillian Stokes, 1996
8) Important Bird Areas of California, by Daniel S. Cooper, published by Audubon California, 2004
10) Western Birds, by Roger Tory Peterson, 1990

STANDARDIZED 4- AND 6-LETTER BIRD SPECIES CODES

https://www.birdpop.org/pages/birdSpeciesCodes.php
Bird and Garden Resources

1) “A CALIFORNIAN’S GUIDE TO THE TREES AMONG US”, by Matt Ritter
2) “AN INTRODUCTION TO SOUTHERN CALIFORNIA BUTTERFLIES”, by Fred Heath and Herbert Clarke
3) “BRINGING NATURE HOME How You Can Sustain Wildlife with Native Plants”, by Douglas Tallamy
4) “CALIFORNIA NATIVE PLANTS FOR THE GARDEN”, by Carol Bornstein, David Fross and Bart O’Brien
5) “DESIGNING CALIFORNIA NATIVE GARDENS”, by Glenn Keator and Alrie Middlebrook
6) “FLOWERING PLANTS The Santa Monica Mountains Coastal & Chaparral Regions of Southern California”, by Nancy Dale and California Native Plant Society
7) “GARDENING WITH A WILD HEART Restoring California’s Landscapes at Home”, by Judith Larner Lowry
9) “HOW TO BE A (BAD) BIRDWATCHER”, by Simon Barnes
10) “INSECTS OF THE LOS ANGELES BASIN”, by Charles L. Hogue
11) “KINGBIRD HIGHWAY: The Biggest Year in the Life of an Extreme Birder”, by Kenn Kaufman
12) “NATIVE TREASURES, GARDENING WITH THE PLANTS OF CALIFORNIA”, by M. Nevin Smith
13) “REIMAGING THE CALIFORNIA LAWN Water-conserving Plants, Practices, and Designs” by Carol Bornstein, David Fross, and Bart O’Brien
14) “SONGBIRD JOURNEYS Four Seasons in the Lives of Migratory Birds”, by Miyoko Chu
15) “TENDING THE WILD”, by M. Kat Anderson
16) “THE GENIUS OF BIRDS”, by Jennifer Ackerman
17) “THE HIDDEN LIFE OF TREES What They Feel, How They Communicate”, by Peter Wohlleben
18) “THE LANDSCAPING IDEAS OF JAYS A Natural History of the Backyard Restoration Garden”, by Judith Larner Lowry
19) “THE SECRET LIFE OF TREES: HOW THEY LIVE AND WHY THEY MATTER”, by Colin Tudge
20) “THE SINGING LIFE OF BIRDS The Art and Science of Listening to Birdsong”, by Donald Kroodsma
21) “THE SOIL WILL SAVE US How Scientists, Farmers, and Foodies are Healing the Soil to Save the Planet”, by Kristin Ohlson
22) “THE SONGS OF TREES Stories From Nature's Great Connectors”, by David George Haskell
23) “TREES AND SHRUBS OF CALIFORNIA”, by John D. Stuart and John O. Sawyer
24) “WILDFLOWERS OF THE SANTA MONICA MOUNTAINS”, by Milt McAuley
Where to buy native plants and seeds, take classes and get info on the garden:

- C&S Nursery (Los Angeles) [http://www.csnursery.com/](http://www.csnursery.com/)
- International Garden Center (El Segundo) [http://www.igardencenter.com/IGC/](http://www.igardencenter.com/IGC/)
- Marina Garden Center (Marina del Rey) [http://marinagardencenter.com/](http://marinagardencenter.com/)
- Matilija Nursery (Moorpark) [http://www.matilijanursery.com/](http://www.matilijanursery.com/)
- Theodore Payne Foundation (Sun Valley) [http://www.theodorepayne.org/](http://www.theodorepayne.org/)
- Tree of Life Nursery (San Juan Capistrano) [http://www.californianativeplants.com/](http://www.californianativeplants.com/)

  1. “Out of the Wilds and Into Your Garden” Series
  2. “One Pot at a Time” Project
  3. Ongoing Classes and Workshops

- Native Plants at CSUDH: Research, Restoration and Education with California Native Plants [http://nativeplantscsudh.blogspot.com/](http://nativeplantscsudh.blogspot.com/)
Garden Resources On-line - PLANTS

- Annie’s Annuals & Perennials http://www.anniesannuals.com
- Calflora http://www.calflora.org/index0.html
- CalPhotos Plants http://calphotos.berkeley.edu/flora/
- El Nativo Growers (Azusa) http://www.elnativogrowers.com/ (through garden centers)
- Lady Bird Johnson Wildflower Center Austin, Texas-based center, website includes image gallery and native plants database http://www.wildflower.org
- Las Pilitas Nursery (San Juan Capistrano) http://laspilitas.com/ (on-line or open Fri/Sat Only)
- Manhattan Beach Botanical Garden http://www.manhattanbeachbotanicalgarden.org/MBBGplantlist.html
- Matilija Nursery http://www.matilijanursery.com/
- Native Grow Nursery http://www.nativegrow.com/
- Native Sons Nursery http://nativeson.com/plants.htm
- Pacific Horticultural Society http://www.pacifichorticulture.org/
- Plant Native http://www.plantnative.org/nd_ca.htm
- Sunset http://plantfinder.sunset.com/sunset/plant-home.jsp
- Theodore Payne Foundation http://www.theodorepayne.org/
- USDA National Resources Conservation Service http://plants.usda.gov/
Get your bird on! (other Bird Resources)

C. Audubon’s Birds and Climate Change Report - September 2014:  http://climate.audubon.org/
D. Bird Checklist for Southern California – use this to create your own:  
F. BRINGING NATURE HOME: HOW NATIVE PLANTS SUSTAIN WILDLIFE IN OUR GARDENS:  http://bringingnaturehome.net/book
G. Christmas Bird Count (CBC) 2018/2019 – do a count for your area with a local Audubon Chapter:  
   https://www.audubon.org/conservation/science/christmas-bird-count
H. eBird – a great way to capture your data and compare with others around the world:  http://ebird.org/content/ebird/
J. Gardening For Life, article by Douglas Tallamy:  http://www.for-wild.org/download/tallamy/gardeningforlife.html
L. HOW BIRDS KEEP OUR WORLD SAFE FROM THE PLAGUES OF INSECTS:  
   http://nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/Fact_Sheets/default.cfm?fxsht=2
M. iNaturalist – a great way to share your observations with others from around the world:  http://www.inaturalist.org/
N. LA County Birds Yahoo Group – to keep up on local sightings:  https://groups.yahoo.com/group/LACoBirds/
O. Mobile Phone Apps:  Audubon California Birds, iBird PRO, Sibley Life, Merlin Bird ID
P. IMPACT OF NATIVE PLANTS on Bird and Butterfly Biodiversity in Suburban Landscapes:  
How resourceful do birds have to be looking for water?

A WATER PUDDLE BRINGS WARBLERS Huntington Central Park in Sept 2007 Photos by Monte M. Taylor and Christopher H. Taylor:

http://www.tsuru-bird.net/20070930_california/index.html

These are just a few select images of warblers, tanagers and flycatchers in one spot (3 square meters) for a couple hours on a fall day in Huntington Beach Central Park.

- Black-throated Gray Warbler
- Blackpole Warbler
- Common Yellowthroat
- Nashville Warbler
- Orange-crowned Warbler
- Tennessee Warbler
- Townsend’s Warbler
- Yellow-rumped Warbler
- Yellow Warbler
- Western Tanager
- Western Wood Pewee
How resourceful do birds have to be looking for shelter?

- These Bluebirds are surviving a cold winter together in the hollow of a tree.

- Under normal circumstances they'd be competing for their territories and chasing each other away.

- Their very existence is so fragile, hinging on mankind realizing what they are up against, and helping them with the odds -- by NOT CUTTING DOWN EVERY DEAD HOLLOWED OUT TREE!

Photo property of National Wildlife Federation  www.nwf.org
What happens when habitat disappears?

Where Do Urban Animals Go When Their Habitats Disappear?

STEVE HOLT

NOV 16, 2017

What happens when habitat disappears?

This parkway tree in West LA is ideal
For the birds to bed down for the night

White-crowned Sparrows, a migrating Wintering bird in Southern California suburbs between September and April, like to roost at night in dense trees or bushes with their own species, and tolerate others (like House Finches and Sparrows) in the same tree

https://youtu.be/4Q4IoBF_fRU
What happens when habitat disappears?

These 2 Eucalyptus trees, not far from the Bottle Brush tree, were loaded with White-crowned Sparrows last Winter. Since the trees have been trimmed they have not been back.

The birds had to move to find a denser tree for protection at night from predators.
What happens when habitat disappears?

Excerpt from:

Where Do Urban Animals Go When Their Habitats Disappear?

“The creation of wildlife habitats on public and blighted lands is not nearly as difficult as the protection of mature trees on private property,” Strauss said. But solutions are possible when residents are educated on the benefits of these ecosystems and weigh in on how to protect them. “Successful green intervention is a negotiated settlement within a community,” Strauss said. “Communities need to decide not what green spaces or animals they want, but what ecosystem services they want from their green space,” he says. Once a community decides what it wants from nature, the specific trees and animals to introduce or protect becomes clearer. And with a regulatory framework in place to protect living ecosystems, cities can enforce it with a system of incentives and penalties.”

What happens when habitat APPEARS?

Hummingbird Pool Party Number Five!

wildwingsla

A record 30 hummingbirds bathe together at one time during this morning’s wash!

https://www.youtube.com/watch?v=YAer4rDnA6I

https://youtu.be/YAer4rDnA6I

Female Allen’s Hummingbird

By Marilyn Meadows Bernstein
What happens when habitat APPEARS?

These Cedar Waxwings are taking advantage of a bird bath in someone’s yard.
What happens when habitat APPEARS?

Birds at feeders and birdbaths

https://youtu.be/LaOyccJu7hM
We can ensure birds survive and **thrive** in an urban setting!

**It’s Simple**

4 basic habitat elements needed for wildlife to thrive:

1. Food
2. Water
3. Cover
4. Places to raise young
Garden Resources On-line

How to register your garden as a **Wildlife Habitat Yard**

4) Xerces Society  [http://www.xerces.org/bringbackthepollinators/](http://www.xerces.org/bringbackthepollinators/)

The Pollinator Partnership is a non-profit 501(c)3 organization and the largest in the world dedicated exclusively to the protection and promotion of pollinators and their ecosystems.

- Go to this website for more resources on pollinators: [http://www.pollinator.org/](http://www.pollinator.org/)

**Why do this?**
- Your garden will come alive
- You’ll teach your students
- You’ll love your garden!
What happens when habitat APPEARS, or is maintained for wildlife?

Birds have a better chance to overcome the challenges they face.
TOP 10 BIRDS
Around the LMU Campus
as Indicator Species:

CATEGORIES

- habitat specific
- migrants
- nesting
TOP 10 BIRDS Around the LMU Campus as Indicator Species
They can be divided into 5 main groups:

1) **Carnivore – Meat Eater**
   - Red-tailed Hawk (REHA)

2) **Granivore – Seed Eater**
   - Scrub Jay (SCJA)

3) **Insectivore – Insect Eater**
   a) Black Phoebe (BLPH)
   b) Bushtit (BUSH)
   c) Northern Mockingbird (NOMO)
   d) White-crowned Sparrow (WHSP)
   e) Yellow-rumped Warbler (YEWA)

4) **Nectarivore – Drinks Nectar**
   - Allen’s Hummingbird (ALHU)

5) **Omnivore – Mixed Diet**
   a) American Crow (AMCR)
   b) Song Sparrow (SOSP)
The Primary Categories To Bird Identification

1. Size and Shape
2. Color Pattern
3. Behavior
4. Habitat
5. Vocalization
6. Diet

Example:

Common Name: American Crow
FAMILY Genus Species: CORVIDAE Corvus brachyrhynchos
1. Allen’s Hummingbird

**TROCHILIDAE Selasphorus sasin**

Female Allen’s Hummingbird by Marilynn Meadows Bernstein
(notice the patch of orange feathers on throat)

**Vocalizations**
[https://www.allaboutbirds.org/guide/Allens_Hummingbird/sounds](https://www.allaboutbirds.org/guide/Allens_Hummingbird/sounds)

**Habitat**
Allen's Hummingbirds breed in coastal forest, scrub, and chaparral along a narrow strip that stretches up the coast from California to southern Oregon.

**Size & Shape**
Allen's Hummingbirds are small, compact, and stocky hummingbirds. The bill is straight and about as long as the head. The tail extends past the wings when perched and the outermost tail feather is narrower than the rest.

Photo by Richard Beban
2. American Crow

CORVIDAE *Corvus brachyrhynchos*

**Size & Shape**
A large, long-legged, thick-necked bird with a heavy, straight bill. In flight, the wings are fairly broad and rounded with the wingtip feathers spread like fingers. The short tail is rounded or squared off at the end.

**Vocalizations**
[https://www.allaboutbirds.org/guide/American_Crow/sounds](https://www.allaboutbirds.org/guide/American_Crow/sounds)

**Habitat**
American Crows are common birds of fields, open woodlands, and forests. They thrive around people, and you'll often find them in agricultural fields, lawns, parking lots, athletic fields, roadsides, towns, and city garbage dumps.
3. Black Phoebe  

TYRANNIDAE  *Sayornis nigricans*

**Size & Shape**
Black Phoebes are small, plump songbirds with large heads and medium-long, squared tails. They often show a slight peak at the rear of the crown. The bill is straight and thin.

**Vocalizations**
[https://www.allaboutbirds.org/guide/Black_Phoebe/sounds](https://www.allaboutbirds.org/guide/Black_Phoebe/sounds)

**Habitat**
In the U.S., you’ll almost always find these flycatchers near water. They live along streams, rivers, lakes, and the Pacific Ocean—even around cattle tanks. As long as there is water present and some kind of ledge or overhang on which to anchor a mud nest, Black Phoebes could be around.
4. Bushtit

**AEGITHALIDAE** *Psaltriparus minimus*

**Size & Shape**
Bushtits are tiny, kinglet-sized birds. They are plump and large-headed, with long tails and short, stubby bills.

**Vocalizations**
[https://www.allaboutbirds.org/guide/Bushtit/sounds](https://www.allaboutbirds.org/guide/Bushtit/sounds)

**Habitat**
Bushtits live in oak forest, evergreen woodlands, dry scrublands, streamsides, and suburbs. You can find them at elevations from sea level to over 10,000 feet.
5. Northern Mockingbird

**Size & Shape**
A medium-sized songbird, a bit more slender than a thrush and with a longer tail. Mockingbirds have small heads, a long, thin bill with a hint of a downward curve, and long legs. Their wings are short, rounded, and broad, making the tail seem particularly long in flight.

**Vocalizations**
[https://www.allaboutbirds.org/guide/Northern_Mockingbird/sounds](https://www.allaboutbirds.org/guide/Northern_Mockingbird/sounds)

**Habitat**
Look for Northern Mockingbirds in towns, suburbs, backyards, parks, forest edges, and open land at low elevations.

http://commons.wikimedia.org/wiki/File:Northern_Mockingbird_(Mimus_polyglottos)_RWD.jpg
6. Red-tailed Hawk

ACCIPITRIDAE Buteo jamaicensis

**Size & Shape**
Red-tailed Hawks are large hawks with typical Buteo proportions: very broad, rounded wings and a short, wide tail. Large females seen from a distance might fool you into thinking you’re seeing an eagle. (Until an actual eagle comes along.)

**Vocalizations**
https://www.allaboutbirds.org/guide/Red-tailed_Hawk/sounds

**Habitat**
The Red-tailed Hawk is a bird of open country. Look for it along fields and perched on telephones poles, fenceposts, or trees standing alone or along edges of fields.

http://commons.wikimedia.org/wiki/File:Buteo_jamaicensis_7.jpg
7. **Scrub Jay**

**CORVIDAE Aphelocoma californica**

**Size & Shape**
A fairly large songbird with lanky dimensions. The tail is long and floppy; the bird often adopts a hunched-over posture. The bill is straight and stout, with a hook at the tip.

**Vocalizations**
[Link to Vocalizations](https://www.allaboutbirds.org/guide/California_Scrub-Jay/sounds)

**Habitat**
These birds are a fixture of dry shrublands, oak woodlands, and backyards from Washington state south to Baja California.

8. Song Sparrow

EMBERIZIDAE *Melospiza melodia*

**Size & Shape**
Song Sparrows are medium-sized and fairly bulky sparrows. For a sparrow, the bill is short and stout and the head fairly rounded. The tail is long and rounded, and the wings are broad.

**Vocalizations**
https://www.allaboutbirds.org/guide/Song_Sparrow/sounds

**Habitat**
Look for Song Sparrows in nearly any open habitat, including marsh edges, overgrown fields, backyards, desert washes, and forest edges. Song Sparrows commonly visit bird feeders and build nests in residential areas.

9. White-crowned Sparrow

**Size & Shape**
The White-crowned Sparrow is a large sparrow with a small bill and a long tail. The head can look distinctly peaked or smooth and flat, depending on the bird’s attitude.

**Vocalizations**
https://www.allaboutbirds.org/guide/White-crowned_Sparrow/sounds

**EMBERIZIDAE Zonotrichia leucophrys**

**Habitat**
Look for White-crowned Sparrows in places where safe tangles of brush mix with open or grassy ground for foraging. For much of the United States, White-crowned Sparrows are most likely in winter (although two races live year round in the West, along the coast and in the mountains).
10. Yellow-rumped Warbler (Audubon’s)

PARULIDAE *Setophaga coronata*

**Size & Shape**
Yellow-rumped Warblers are fairly large, full-bodied warblers with a large head, sturdy bill, and long, narrow tail.

**Vocalizations**
https://www.allaboutbirds.org/guide/Yellow-rumped_Warbler/sounds

**Habitat**
In summer, Yellow-rumped Warblers are birds of open coniferous forests and edges, and to a lesser extent deciduous forests. In fall and winter they move to open woods and shrubby habitats, including coastal vegetation, parks, and residential areas.