

A: 50 - 200 bps  
or 3,000 –  
12,000 beats  
per minute!



[www.google.com](http://www.google.com)

LMU|LA  
Center for Urban Resilience

THE **Gottlieb**   
Native Garden

Q: How fast do  
the wings of a  
hummingbird  
beat per second?



[www.google.com](http://www.google.com)

LMU|LA  
Center for Urban Resilience

THE **Gottlieb**   
Native Garden

A: Rufous hummingbird



[www.google.com](http://www.google.com)

Q: What species of hummingbird has been documented flying over the Pacific Ocean?



[www.google.com](http://www.google.com)

LMU|LA  
Center for Urban Resilience

THE **Gottlieb**   
Native Garden

LMU|LA  
Center for Urban Resilience

THE **Gottlieb**   
Native Garden

A: Torpor



LMU|LA  
Center for Urban Resilience

THE **Gottlieb**   
Native Garden

Q: What is it called when hummingbirds lower their body temperature at night, thereby lowering their metabolism to conserve energy?



LMU|LA  
Center for Urban Resilience

THE **Gottlieb**   
Native Garden

A: Nectar,  
insects, and  
small spiders.



LMU|LA  
Center for Urban Resilience

THE Gottlieb  
Native Garden 

Q: What do  
hummingbirds  
eat?



LMU|LA  
Center for Urban Resilience

THE Gottlieb  
Native Garden 

A: Only in the Americas, which are in the Western Hemisphere.



LMU|LA  
Center for Urban Resilience

THE Gottlieb  
Native Garden 

Q: Where are hummingbirds found in the World?



LMU|LA  
Center for Urban Resilience

THE Gottlieb  
Native Garden 

A: They help pollinate flowers.



[www.google.com](http://www.google.com)

LMU|LA  
Center for Urban Resilience

THE Gottlieb  
Native Garden 

Q: What is an important ecosystem service that hummingbirds provide?

LMU|LA  
Center for Urban Resilience

THE Gottlieb   
Native Garden

A: Hummingbirds are the only bird that can hover and fly backwards and upside down!



[www.google.com](http://www.google.com)

LMU|LA  
Center for Urban Resilience

THE Gottlieb   
Native Garden

Q: What is something very special about how hummingbirds fly?



[www.google.com](http://www.google.com)

LMU|LA  
Center for Urban Resilience

THE Gottlieb   
Native Garden

A: On average, 500-600 bpm!  
(In comparison, the average human's heartbeat is 60-100 bpm.)



Photo by Richard Beban

Q: How fast does a hummingbird's heart beat per minute?



Photo by Richard Beban



Female Anna's-www.google.com



Male Anna's-Photo by Don Sterba



Female Allen's-Photo by Marilyn Bernstein



Male Allen's-Photo by Richard Beban

A. Anna's and Allen's.



Q: What are the two most common hummingbird species we see on the LMU campus?

Hummingbirds at the Gottlieb Native Garden



A: Two.



LMU|LA  
Center for Urban Resilience

THE Gottlieb   
Native Garden

Q: How many  
eggs does a  
hummingbird lay  
on average?



LMU|LA  
Center for Urban Resilience

THE Gottlieb   
Native Garden

A: Yes! They prefer very shallow, moving water, or a light spray mist.



[www.google.com](http://www.google.com)

LMU|LA  
Center for Urban Resilience

THE Gottlieb  
Native Garden

Q: Do hummingbirds need water to drink and bathe?



LMU|LA  
Center for Urban Resilience

THE Gottlieb  
Native Garden

A: No. This discourages insects from feeding from them too!



Q: Do the tubular flowers that hummingbirds get nectar from have a scent or fragrance ?



A: Every 15 minutes!



Hummingbirds at the Gottlieb Native Garden

LMU|LA  
Center for Urban Resilience

THE Gottlieb  
Native Garden 

Q: How often do hummingbirds have to feed?



Hummingbirds at the Gottlieb Native Garden

LMU|LA  
Center for Urban Resilience

THE Gottlieb  
Native Garden 

A: 1000!



LMU|LA  
Center for Urban Resilience

THE **Gottlieb**   
Native Garden

Q: On average, how many flower blossoms might a hummingbird feed from each day?



LMU|LA  
Center for Urban Resilience

THE **Gottlieb**   
Native Garden

A: Yes! And, you can put out nesting material and feeders to keep them coming back!



LMU|LA  
Center for Urban Resilience

THE Gottlieb   
Native Garden

Q: Will hummingbirds that migrate return to the same feeding and nesting locations each year?



LMU|LA  
Center for Urban Resilience

THE Gottlieb   
Native Garden

A: Yes. So, never remove a nest from a tree or bush, because it could be reused by the same or a different hummingbird.



Q: Will hummingbirds reuse the same nest?



A: No.

Hummingbirds are not cavity nesters, so they will never nest in a bird house or roosting box.



LMU|LA  
Center for Urban Resilience

THE Gottlieb   
Native Garden

Q: Will  
hummingbirds  
nest or roost in  
bird houses?



LMU|LA  
Center for Urban Resilience

THE Gottlieb   
Native Garden

A: No. For example, there is a sub-species of Allen's hummingbirds in California that stay year-round.



LMU|LA  
Center for Urban Resilience

THE Gottlieb Native Garden

Q: Do all hummingbirds migrate?



LMU|LA  
Center for Urban Resilience

THE Gottlieb Native Garden

A: Cats, larger birds, snakes, squirrels, praying mantids, and others.



Q: What are some predators of hummingbirds?



A: Yes, 34 species are endangered.



Q: Of the 342 hummingbird species, are any endangered?



