



## **Coyote Valley Nature Exploration (BioBlitz) Report** **Santa Clara Valley Audubon Society**



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### **Introduction**

Santa Clara Valley Audubon Society (SCVAS) has a legacy of environmental education, advocacy and conservation since our founding in 1926. We are dedicated to promoting the enjoyment, understanding, and protection of birds and other wildlife by engaging people of all ages in birding, education, and conservation throughout Santa Clara County and beyond. Recently, we have begun to offer technology-aided nature exploration events, or “BioBlitzes”, in local communities with the goal of inspiring an enjoyment and understanding of native ecosystems.

A BioBlitz is a family-oriented event where docents guide participants and teach them how to use smartphone applications, such as iNaturalist and/or eBird to record and explore all forms of life in an

area. These events bring people closer to nature while highlighting the biodiversity of an area and generating data that can be used by land managers and researchers.

This report focuses on our August 19<sup>th</sup> BioBlitz in North Coyote Valley. Over 100 people attended the event and recorded 195 species of birds, insects, plants, and mammals in the span of 4 hours.

### **Coyote Valley area – history**

Stretching 7,400 acres in South San Jose, Coyote Valley has long been recognized as a critically important landscape for resident and migratory bird species and local wildlife. Historically, the valley boasted native grasslands, oak savannah, meandering streams and vast wetlands. Today, the primary land use in the valley is agriculture, but remnants of native ecosystems persist in some edge areas. The valley also provides a linkage for wildlife moving between the Santa Cruz Mountains to the west and the Diablo Range to the east.

For decades, Santa Clara Valley Audubon Society and other environmental organizations have been fighting to preserve North Coyote Valley as habitat and a wildlife linkage and to protect it from urban sprawl, as numerous development proposals have threatened to transform the valley into corporate campuses, data centers, and warehouses. The purpose of the BioBlitz was to bring families out to Coyote Valley to explore and enjoy the valley’s biodiversity.

The event was sponsored by San Jose District 2 Council member Sergio Jimenez’s office. The Land Trust of Santa Clara Valley provided access to Tulare Hill - a serpentine grassland habitat that is usually closed to the public. The Santa Clara Valley Open Space Authority and Santa Clara County Parks waved fees for the inclusion of the Coyote Valley Open Space Preserve and Santa Clara County Parks in the Bioblitz area. Spina Farms provided parking areas to support the effort.

*Map: Coyote Valley.  
Area surveyed are  
marked by red circles*



## **Participation and results**

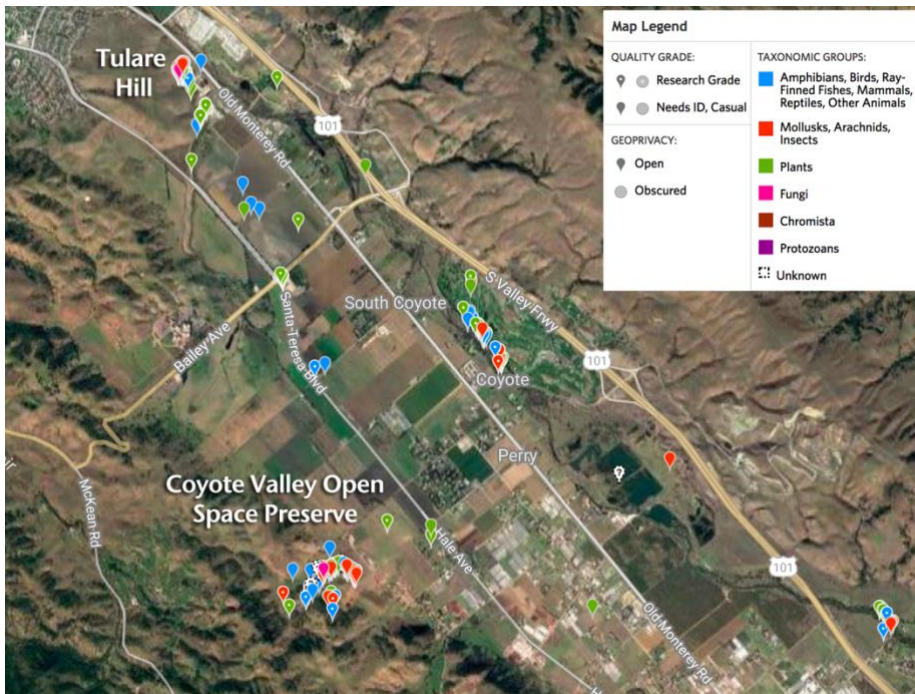
More than 100 people participated in the Coyote Valley BioBlitz. Forty volunteers representing local non-profits and organizations joined Santa Clara Valley Audubon Society's team. Over 60 participants, including 15 families with children, went on nature exploration walks guided by expert volunteers and recorded all of the life forms that they found. Teams were divided between Coyote Valley Open Space Preserve and Tulare Hill. Some observations were also taken along Coyote Creek Trail County Park.

*Right: Volunteers appreciating a huge valley oak tree in Tulare Hill. In addition to a wood duck nesting box on the tree trunk, this oak creates a habitat for many species, including hundreds of wasp-induced galls*

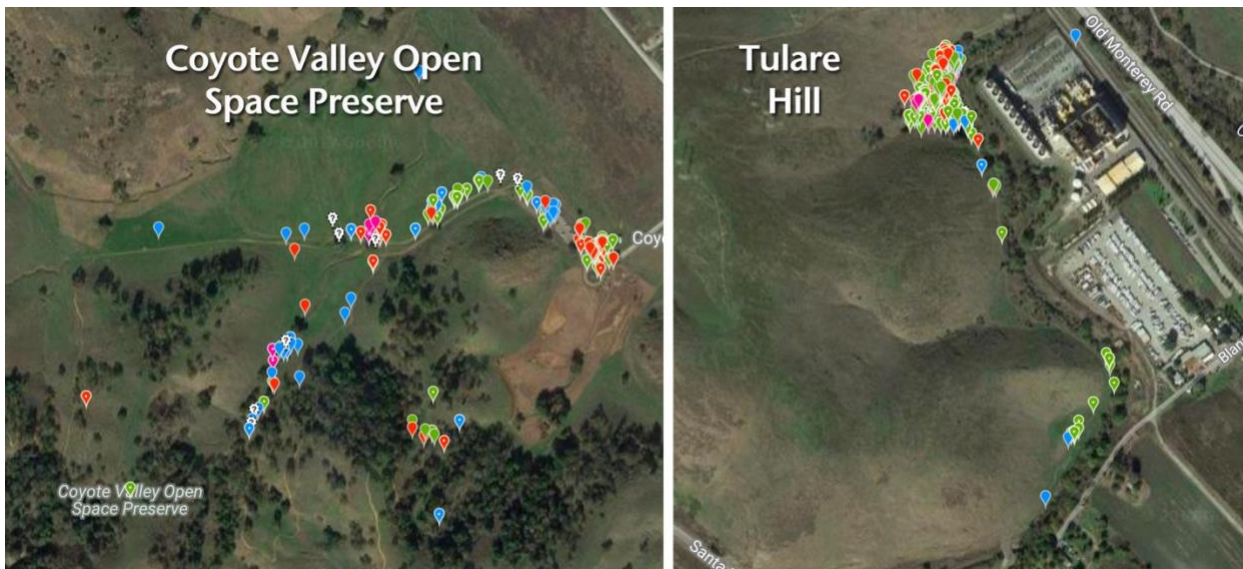


*Left: Volunteers examining galls on a blue oak at Coyote Valley Open Space Preserve. In the middle of the summer, oak galls offer a diverse and colorful little community. Sixty observations of 8 species of gall wasps were recorded during the BioBlitz!*

Forty-five people recorded 658 observations using [iNaturalist](https://www.inaturalist.org/projects/coyote-valley-1st-bioblitz) and 103 observations using [eBird](#) applications on their smart phones. Observations were uploaded into a Coyote Valley BioBlitz project on iNaturalist (<https://www.inaturalist.org/projects/coyote-valley-1st-bioblitz>).

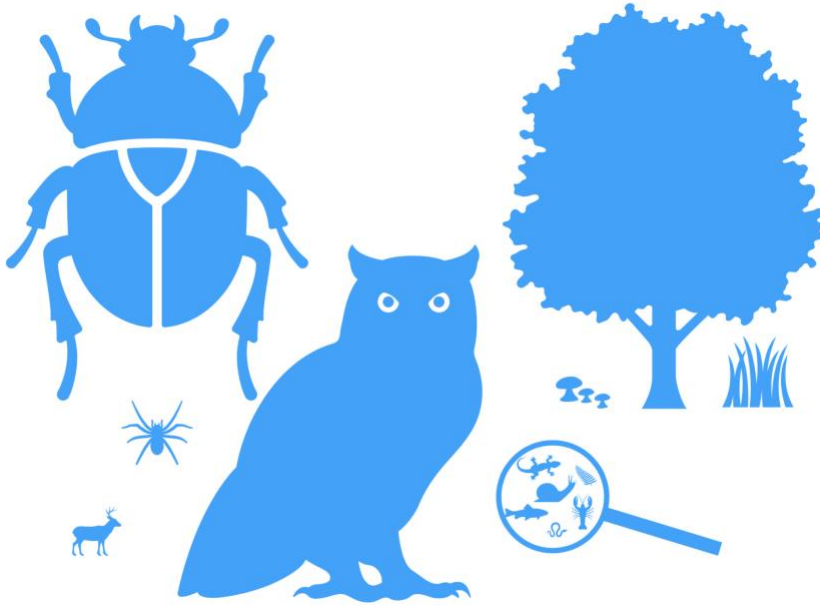


*Map: 658 observations of 195 species recorded during the BioBlitz, August 19<sup>th</sup>*



*Enlarged area: 209 observations from Coyote Valley OSP, and 312 observations from Tulare Hill*

The observations collected documented a diverse wildlife, comprising 195 species of animals (109), plants (75), and fungi (11). The groups with the highest number of species observed were flowering plants, birds, and insects, as illustrated in the diagram below. The size of the icon is proportional to the relative number of species of the group. For example, few species of fish and reptiles were observed.



Class	no. of species
Magnoliopsida (flowering plants)	59
Aves (birds) *	56
Insecta	55
Arachnida	13
Liliopsida (grasses)	13
Mammalia	9
Lecanoromycetes	5
Agaricomycetes	3
Leotiomyces	3
Actinopterygii (fish)	2
Amphibia	2
Bivalvia	1
Gastropoda	1
Malacostraca (crustaceans)	1
Polypodiopsida (ferns)	1
Reptilia	1
Chlorophyta	1

One interesting diversity hotspot at the BioBlitz was a family of little wasps that induces oak galls. By injecting chemicals to the plant tissue, the wasps make the plant create a special habitat for its larvae to develop in. We recorded eight species of wasps, each one induces a unique structure on the plant.



*Gall wasp species, left to right:  
 Convoluted Gall Wasp, Saucer Gall Wasp,  
 Red Cone Gall Wasp, Round Gall Wasp,  
 California Gall Wasp, Spined Turban Gall  
 Wasp, Honey Dew Gall Wasp, and Pumpkin  
 Gall Wasp. All but the last species are found  
 on white oaks – valley and blue oaks.  
 Pumpkin Gall Wasp are found on coast live  
 oak*

**Valley oaks, narrowleaf milkweed, and seep monkeyflower**, were observed and documented frequently during the event. These keystone species are an integral part of native ecosystems; valley oaks, along with coast live oak and blue oak create an important oak woodland habitat that supports a high diversity of animals and plants. Narrowleaf milkweed and seep monkeyflower are a significant source of nectar for many pollinators in the middle of the summer, when most flowers are dormant. In addition to attracting many butterflies, bees, wasps, flies, and other pollinators, these species also attract these insects' natural predators, such as spiders and predaceous bugs.

*Narrowleaf milkweed associated insects and spiders (top-bottom):*

*Left: predators – green lynx spider, crab spider;*

*Middle: pollinators – acmon blue, syrphid fly, honey bee;*

*Right: pollinators – great golden digger wasp, paper wasp, tarantula hawk.*



*Left: A monarch caterpillar on a narrowleaf milkweed, at the open space preserve*

Narrowleaf milkweed is also the main host plant for the threatened **monarch** butterfly in California. A few monarch caterpillars were discovered on narrowleaf milkweed plants in the Coyote Valley Open Space Preserve and Tulare Hill. Although the narrowleaf milkweed plant was recorded many times during the event, unfortunately there are only a few plants in each location. Widespread loss of these plants has been recognized as a major factor influencing the decline in monarch butterfly populations.



*Learning about the important habitat created by narrowleaf milkweed*

Wildlife tracking experts from Pathways for Wildlife volunteering for the event, participants and volunteers at the Coyote Valley Open Space Preserve were able to record a substantial number of **mammals** during the BioBlitz, including bobcats, coyotes, Virginia opossum, common raccoon, and wild boars. These discreet animals are active mostly when people are not around, but experts can identify them by examining their scat and tracks.



*Young coyote near the Coyote Creek Trail County Park*

We also recorded a diverse variety of **invertebrates**: at least 17 species of ants, wasps, and bees; spiders belonging to at least 10 families; and at least 6 species of dragonflies and damselflies. Remarkably, 23 species of dragonflies and damselflies were recorded in our [Coyote Valley San Jose](#) iNaturalist project (this project contains over 1,700 observations from the entire Coyote Valley, collected since 2011).

We recorded 56 **bird** species, using eBird and iNaturalist. 43 of the species are residents to Coyote Valley, and 11 are migratory species (based on the [Coyote Valley Bird Database](#), that contains 224 bird species recorded in Coyote Valley). Most of these species are open woodland species that nest on trees or in cavities and feed on insects or seeds.

**Appendix 1** includes species lists of all insect, plant and bird species that were recorded during the BioBlitz.



*Observing barn owl pellet at the open space preserve*



*Observing golden eagles at the open space preserve*

## **Conclusion**

Santa Clara Valley Audubon Society is dedicated to educating the public about the importance of Coyote Valley as a wildlife linkage and protecting it from further development. The data gathered during the BioBlitz can contribute to ongoing research in Coyote Valley.

## **Acknowledgements**

We thank Council member Sergio Jimenez and his staff for sponsoring the BioBlitz. Many thanks to the Land Trust of Santa Clara Valley, Santa Clara Valley Open Space Authority and Santa Clara County Parks for allowing us to utilize their properties for the event. Craig Edgerton was especially helpful in providing us with access to Tulare Hill. We also wish to thank our lead volunteer, Merav Vonshak, for organizing the event, along with the many other volunteers who assisted with the BioBlitz: Ahíga Roger Snyder, Alan Kaiser, Andrew Mattioda, Atul Chaudhari, Bill Pelletier, Bob Hirt, Carolyn Knight, Chris Johnson, Christal Niederer, Christine Zack, Dave Poeschel, David Zittin, Deborah Jamison, Don McDougall, Eddie Dunbar, Eileen Mclaughlin, Jan Hintermeister, Jerry Neece, Kitty O'Neil, Lani Renshaw, Lisa Myers, Margaret Hinebaugh, Mary Yan, Mike Hundt, Paul Heiple, Phil Higgins, Rick Herder, Rob Furrough, Robbie Lamons, Sara Witt, Sophia Christel, and Tanya Diamond.

