



Marin Wildlife Watch: Frequently Asked Questions

Questions about the program:

Q. What is Marin Wildlife Watch?

Marin Wildlife Watch is a One Tam community science program that uses motion-activated cameras to study wildlife, mostly mammals, on public lands in Marin. Volunteers process the images from the cameras on an online platform to become data for the program, and One Tam scientists use this information to understand how wildlife in the region are doing.

This program used to be known as the Marin Wildlife Picture Index Project, named after the biodiversity index that this program enables us to measure.

Q: What is the Wildlife Picture Index?

The Wildlife Picture Index (WPI) is a biodiversity index that tells us about the presence of wildlife in our parks and open spaces using photos from wildlife cameras. Together with other environmental data, it informs efforts to protect wildlife species diversity and populations. First developed by the Wildlife Conservation Society and the Zoological Society of London, this internationally recognized method is now being used in Marin County and in other parks throughout the Bay Area to understand the status and trends in our wildlife community over time.

Q: What is a wildlife camera?

A wildlife camera is a stationary, weatherproof, motion-activated camera that can be left outside for long periods of time. Cameras operate 24/7 on batteries and record photographs onto memory cards, which are replenished regularly. Wildlife cameras are silent and do not emit light or use a flash, and therefore are able to gather images without disturbing wildlife. They collect images of wildlife that are difficult to study by trying to observe them in person.

Q: What is the purpose of the program?

The purpose of Marin Wildlife Watch is to acquire statistically viable wildlife data over a large geographic area on Mt. Tamalpais and adjacent public lands. While public land managers are aware of many of the species (bobcats, coyotes, badgers, etc.) that occupy these lands, much is still unknown regarding their abundance, population trends over time, how they move about, and how they use these lands at different times of the year. Understanding trends and patterns in wildlife use and behavior is essential to taking better care of our public wildlands. The more we understand wildlife needs, the better we will be able to direct our resources toward enhancing and stabilizing wildlife habitats for the long-term.

One Tam undertook this work to fill a critical gap in our knowledge of how the mountain is doing. Since mammal communities rely on connected, complex habitat, studying them helps us understand the overall health, resilience, and connectivity of the landscape.

Q: Will the photographs taken by these cameras be used for law enforcement purposes?

No. Images captured by these cameras will NOT be used for law enforcement purposes. The purpose of this program is strictly to learn more about wildlife activity on public lands in Marin.

Q: Where are the cameras located?

The cameras in this program are arranged on a grid, which provides a non-biased sampling method for understanding where and how often wildlife species are observed in different areas. The cameras are placed at regular intervals within a contiguous area on land owned and managed by Marin County Parks, Marin Water, California State Parks, and the National Park Service. Placing the cameras across our multiple boundaries allows us to collect data at the scale of a whole landscape, which is needed to study wildlife. The exact locations of cameras will remain undisclosed for the duration of the program to protect the cameras and the data being collected.

Q: Are One Tam partners the only organizations doing this?

No. The Wildlife Picture Index method is being used internationally with great success. Here in California, the protocol was first used in Sonoma County at the Pepperwood Preserve. East Bay Regional Parks, Napa Land Trust, Midpeninsula Open Space District, and Peninsula Open Space Trust are some of the Bay Area organizations also implementing the Wildlife Picture Index. There are also many other camera projects that do not use the WPI method. We are also connecting with WPI projects in neighboring counties to exchange learning and gain an even broader picture of how the region's wildlife is doing.

Q: What platform are you using to manage data and identify photos?

Camera trap projects produce a lot of data, and we need to keep it well-organized so that it can be usable and stay safe into the future. We use [Wildlife Insights](#) for data management, identification, and some analytics. This cloud-based service also allows us to collaborate across One Tam partner agencies. Wildlife Insights is a collaboration of major wildlife conservation groups, tech giants, and philanthropic partners.

Wildlife Insights uses artificial intelligence to automatically assign identifications to photos. Humans still need to verify many of these identifications to make the data more accurate. Over half of the images in a camera trap dataset may be false positives (i.e., images of vegetation moving or shadows) and AI (Artificial Intelligence) will speed up the process of getting usable information out of the data.

By using Wildlife Insights, One Tam is also contributing to a global community of wildlife conservation practice. You can learn more about Wildlife Insights here:

<https://www.wildlifeinsights.org/about>

Q: How can I learn about the results?

We will be posting updates from this program on our website at onetam.org/marin-wildlife-watch as they become available. You can also check One Tam partner websites for updates each partner may post.

Q: How can I get involved?

This is a community science program, which means community members play a critical role in conducting this study and building this body of knowledge together with One Tam scientists.

Volunteers help process the many photos captured by these cameras. We offer training for volunteers to learn about the program, how to identify mammals in the photos, and how to catalog the photos using an online platform. Currently, volunteers aged 13 and over are participating remotely via online trainings and photo cataloging. There may be in-person volunteer opportunities in the future. See onetam.org/marin-wildlife-watch to learn more and let us know that you're interested in participating!

Secondly, it is extremely important that these cameras remain intact and in place for the duration of the program so that we can collect good data. Please ask your friends and neighbors to help us take care of these cameras!

Q: Can I volunteer to work with the wildlife cameras?

We are no longer taking volunteers in the field for this program; please consider helping us to process photos! There are also many other opportunities to get involved on the mountain with One Tam and with our individual partners, including other community science and habitat stewardship programs, youth programs, internships, and special events. Check onetam.org for more details.

Q: I'm an educator/student/parent and I would love to have this program in my classroom/campus club/etc. How do I find out more?

We would like to reach more students aged 13 and over. We have some capacity to provide in-person and/or virtual programs with schools. Please complete the interest form available at onetam.org/marin-wildlife-watch and we will get back to you.

Q: Where can I learn more?

Visit onetam.org/marin-wildlife-watch to get updates and to sign up to volunteer.

Questions about wildlife:

Q: How are mammals on Mt. Tam doing?

Early results indicated that overall, mammals in the study area are doing well, but we need to analyze more data to get a fuller picture. Some specific findings from the first three years of data (2014-2017) include:

- Overall biodiversity is excellent—19 species of mammals were detected, of about 24 species that could be expected to be detected by wildlife cameras and were known to have historically inhabited Marin. This includes several rare species including the mountain lion, spotted skunk, American badger, and river otter. (Note: The cameras are best at detecting mid-sized mammals, greater than 1 kg. There are other small mammals that are not reliably detected by the cameras, and so are not included in this study, such as the [13 species of bats](#) in Marin.)
- Mesocarnivores (medium-sized carnivores like coyotes, bobcats, and foxes) are balanced with each other (no species was dominant over others) and balanced with the prey species they depend on (small herbivore species)—this is an indicator of ecosystem health.
- There was a small decline in the WPI (the index mentioned above), specifically in mesocarnivores in the summer season over the three-year period, however the scale of the decline is not immediately alarming. Declines and increases in biodiversity appear to be

site-specific, which may mean that wildlife is moving across the landscape and occupying adjacent lands as conditions change seasonally, and over time. Wildlife populations fluctuate over time in response to many factors including food availability, habitat quality, weather events, and disease. This study also occurred at the height of a multi-year historic drought, but we are unable to say with certainty at this time if this contributed to the decline in WPI. In addition, modeling rare species can contribute to a decrease in WPI simply because rare species come in and out of detection and could potentially pull the index down.

The One Tam partners acknowledge that Mt. Tam is changing quickly. The combination of drought and forest disease is bringing about dramatic changes in habitat structure and food availability for many species. Continuing Marin Wildlife Watch will help us understand how wildlife are responding to these changes, and what role agencies and community members can play in improving the health of the mountain.

See more about how mammals are doing at onetam.org/peak-health/native-mammal-diversity

Q: Which animals have been identified?

You can see a list of species at onetam.org/peak-health/native-mammal-diversity

Q: I saw an interesting mammal when I was out and about. How can I tell agency staff about it?

Please consider submitting your sighting through the citizen science platform, [iNaturalist](https://www.inaturalist.org). You can find a guide to getting started [here](#). Although observation with photos or audio are preferred, you can also submit observations without evidence. We monitor iNaturalist and use the data as part of our work when needed. Please only photograph wildlife from a safe distance – a fuzzy photo is still a good photo for iNaturalist.

Q: Where can I find pictures of the animals?

We share photos and highlights on One Tam's [Instagram \(@onetamalpais\)](#) and [Facebook](#) pages, as well as our [website](#). Marin Wildlife Watch photos may be used for educational purposes with permission but cannot be used for commercial use. Please contact communityscience@onetam.org regarding the use of photos.

Q: I have a question that isn't answered here. Who can I contact?

For additional questions, please contact communityscience@onetam.org.

