

Step-by-Step Western Monarch Thanksgiving Count Monitoring Guide

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The Xerces Society for Invertebrate Conservation

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Step 1: Get Training & Connect with a Regional Coordinator

If this is your first time counting a site, you will need hands-on training with a regional coordinator or experienced volunteer before monitoring your own site. Check the Events (<http://www.westernmonarchcount.org/events/>) page for information on upcoming trainings and events. You can also check our Facebook page (<https://www.facebook.com/groups/294592120736243/>). Regional coordinators (<http://www.westernmonarchcount.org/regionalcoordinators/>) often host group outings for experienced volunteers and new volunteers alike. They also keep track of which sites need monitoring, so they can efficiently use volunteers to help fill gaps. Some counties lack a regional coordinator---if that is the case, Xerces staff will help coordinate site coverage (wmtc@xerces.org).

Step 2: Familiarize Yourself with the Count

Download the necessary data sheets and survey instructions

(<http://www.westernmonarchcount.org/downloads/>). This includes the Monarch Count instructions & data sheet and the Habitat Assessment instructions & data sheet (long or short forms). Read through all of these documents carefully so you know what equipment you will need, what weather conditions are appropriate for a count, and what type of data you will need to collect. If you have any questions, reach out to Xerces (wmtc@xerces.org) or your regional coordinator.

Practice at home

After reading through the protocols and data sheets, grab your binoculars and head outside to give it a try! Pick a branch in a large tree to focus on and count the leaves as if they were monarchs. This will let you practice focusing your binoculars and also experience what it might be like to look up high in the tree. Fill out both the Monarch Count and Habitat Assessment data sheets to the best of your ability. Practicing beforehand will help troubleshoot any issues that might come up the day of counting and provide high quality consistent data.

Learn about overwintering monarchs

Explore the content of the Western Monarch Thanksgiving Count website (www.westernmonarchcount.org) including the About & Frequently Asked Questions pages.

Watch a webinar about monarchs: the Monarch Joint Venture and US Fish and Wildlife Service co-host a great series about monarch conservation including one about overwintering in California and Mexico (<https://monarchjointventure.org/resources/monarch-conservation-webinar-series>)

Watch a clip about the Western Monarch Thanksgiving Count (featuring regional coordinators and volunteers) from the PBS episode Crowd & the Cloud: <http://www.pbs.org/video/crowd-cloud-citizens4earth/> which starts at 27 minutes and 11 seconds and runs to 32 minutes and 18 seconds.

Read the Xerces Society State of the Monarch Butterfly Overwintering Sites in California report (<https://xerces.org/state-of-the-monarch-butterfly-overwintering-sites-in-california/>).

Step 3: Get Ready

Set a date for your count and find a partner to count with you. Remember that weather, temperature, and time of day will affect your survey, so be flexible and try to head out on a day with ideal weather conditions (outlined in the survey instructions <http://www.westernmonarchcount.org/downloads/>). If you can arrange to have another person help you out, that's even better! The two most important periods to conduct a count are during the Thanksgiving Count (3 weeks centered on Thanksgiving weekend) and the New Year's Count (two weeks starting the weekend of/before New Year's)—exact dates are announced each year on the website and via email. However, additional counts anytime during the overwintering period are also welcome.

Print datasheets and instructions and you may also want to download and print directions to the site, the site's history (available via a site report: contact wmtc@xerces.org with the Site ID number for the site you're interested in), and any special instructions on how to access the site (for example, if you need to coordinate with a land owner).

Step 4: Monitor Your Site and count!

Make sure you are conducting a count under the right conditions by referring to the Monarch Count instructions sheet. In short: it should be cool and/or early in the morning so that monarchs are still clustered and easy to accurately count/estimate; it shouldn't be raining hard or very windy---when visibility is low and/or monarchs are being blown about.

Count the monarchs! Record each cluster on a separate row of the datasheet

- a. Individually count small area of cluster and then extrapolate out to arrive at total for entire cluster; repeat count and take the average.
- b. Record average of all observers' counts within 20% (only counts that are within a 20% margin should be considered. If counts are not within 20% discuss why and then start the count again)
- c. Exclude sunners, loners, fliers, and grounders---these categories are tracked separately
- d. Sum all clustered monarchs + sunners, loners, fliers, and grounders for a grand total of all monarchs observed at the site

Fill out data sheets (Monarch Count and Habitat Assessment) as thoroughly as possible, including weather conditions, date/time, observer names, and location.

Now that you've completed one count, consider returning to the site again in a few weeks to note how the monarchs' number or location have changed. Overwintering sites are dynamic places and depending on the weather and other factors monarch departures and arrivals can vary quite a bit. Recording monarchs during the official Thanksgiving and New Year's count periods allows us to compare populations across the state in a standardized way, but there is value in additional counts as well. If you do revisit your site, don't forget to send those data sheets as well.

Step 5: Submit Your Data

Mail, email, or upload your Monarch Count and Habitat Assessment data sheets to the Xerces monarch coordinator when you have completed them. Remember that negative data is as important as positive data – if you go to a site and observe zero butterflies, we still want to know about it!

You can submit data in 1 of 3 different ways:

1) Email or mail a scanned copy of your datasheets to wmtc@xerces.org or

Attn: WMTC Coordinator
The Xerces Society for Invertebrate Conservation
628 NE Broadway, Suite 200
Portland, OR 97232

2) Online survey forms

[Site Specific Data Sheet: Monarch Count](#)

[Site Specific Data Sheet: Habitat Assessment](#)

3) [Monarch SOS app](#) for iPhone

Please submit data collected as soon as possible after conducting a count. Receiving data during or shortly after both the Thanksgiving and New Year periods ends allows us to include it in the total count for that season which Xerces usually releases in February.

Step 6: Share Your Experience + Check Back for Updates

Share your observations, questions, and successes with other volunteers across the state via our Facebook page (<https://www.facebook.com/groups/294592120736243/>) or via email.

And don't forget to check back to the Western Monarch Thanksgiving Count website in February to see the results of this year's counts. After volunteers have submitted their data sheets, Xerces will compile the data and post the results on our website and via email.