

Boise Parks and Recreation 2019 Monarch Report

With the ability to migrate thousands of miles between breeding and wintering sites, the monarch butterfly (*Danaus plexippus*) is truly one of nature's wonders. In 1992, Idaho designated this striking black and orange butterfly as the Idaho state insect. Unfortunately, sightings of monarchs in Idaho have become increasingly rare, as the numbers of monarchs in the West has decreased



significantly due to habitat loss, pesticide use and other factors. For the past four years, Boise Parks and Recreation has engaged a dedicated group of volunteers in the Parks, Monarchs and Milkweeds community science program which engages volunteers in tracking stages of milkweed growth and monarch activity in Boise parks. The information gathered is critical in deepening our understanding of the factors that have led to the precipitous decline in monarch numbers over recent decades and in developing an effective strategy for monarch recovery.

As in previous years, the Parks, Monarchs and Milkweeds program kicked off in early June with a training session in Kathryn Albertson Park. Volunteers practiced identifying stages of milkweed growth, learned proper milkweed plant handling, and reviewed data collection and recording protocols. Following the training, volunteers adopted a milkweed patch to monitor throughout the growing season. Nine milkweed patches in five different parks were monitored from June through early September. Once compiled, the data that was collected during the season was sent to the [Xerces Society](#) for inclusion in a national database that tracks milkweed and monarch populations across the country.

Sadly, 2019 marked the lowest recorded numbers of monarch adults, larvae and eggs observed in the four years of the Parks, Monarchs, and Milkweeds program (See Figure 2). Although there was a reduction in the number of citizen scientists participating in the program in 2019, the number of local sightings is consistent with the marked decrease in the number of Western monarchs across their entire range. During the 2018 Xerces Society Thanksgiving, during which overwintering monarchs are tallied, California experienced the lowest number of monarchs ever recorded (See Figure 1). At 28,429 monarchs, 2018 numbers represented just 0.6% of the historic population (Heitla-Henschell, 2019).

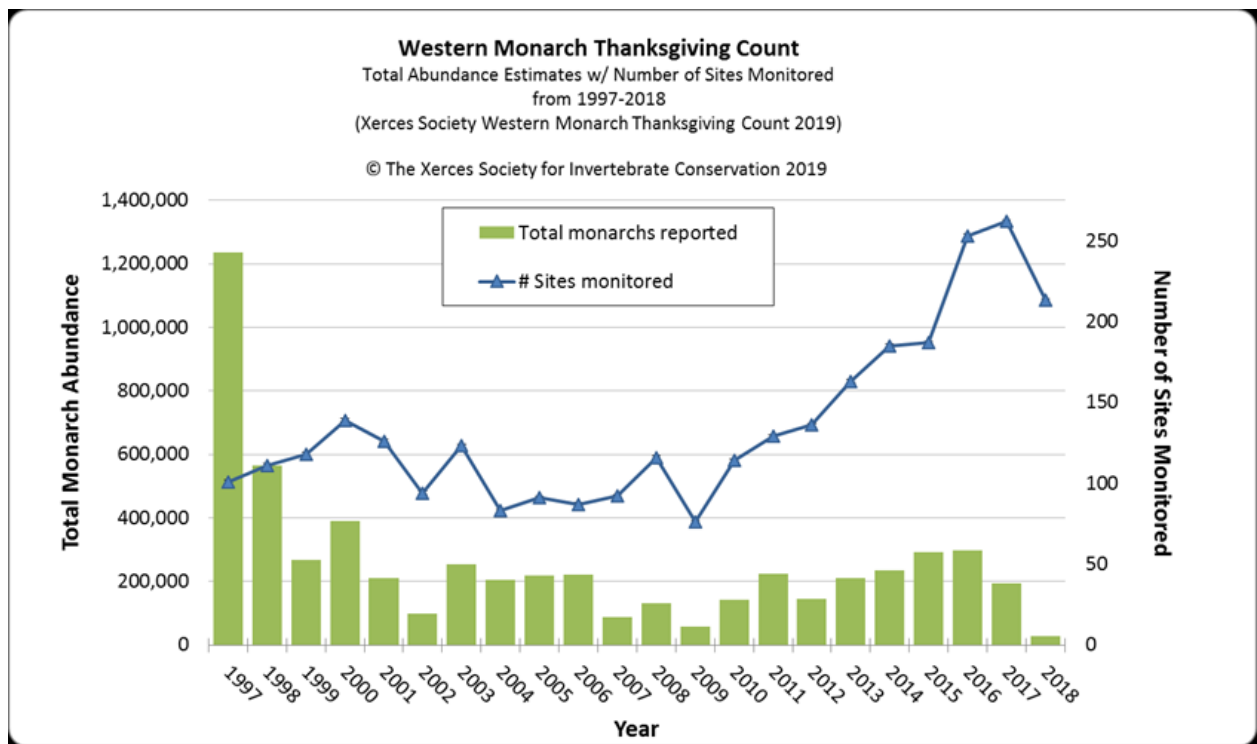


Figure 1 - Xerces Society Thanksgiving Count Trend

Milkweed patches at Hyatt Hidden Lakes Reserve, Kathryn Albertson Park, Ann Morrison Park, Parkcenter Pond and along the Bethine Church River Trail were monitored for eggs, larvae and adult monarchs. Sites in these same parks were monitored in previous years, but the overall number of volunteers and patches monitored was down slightly over last year. Plans for increasing volunteer engagement in the future will be discussed later in this report.

Kathryn Albertson Park

Volunteers dedicated approximately 15 hours to monitoring three milkweed patches in Kathryn Albertson Park this season. The volunteer at site 3 observed one monarch egg on three separate occasions which were the only monarch observations in the park. In previous years, this park has been one of the most prolific sites in terms of monarch sightings. The park is currently undergoing a massive renovation which will undoubtedly impact some of the milkweed in the park. We will continue to monitor the milkweed and find ways to enhance and expand its presence, once the renovation is complete.

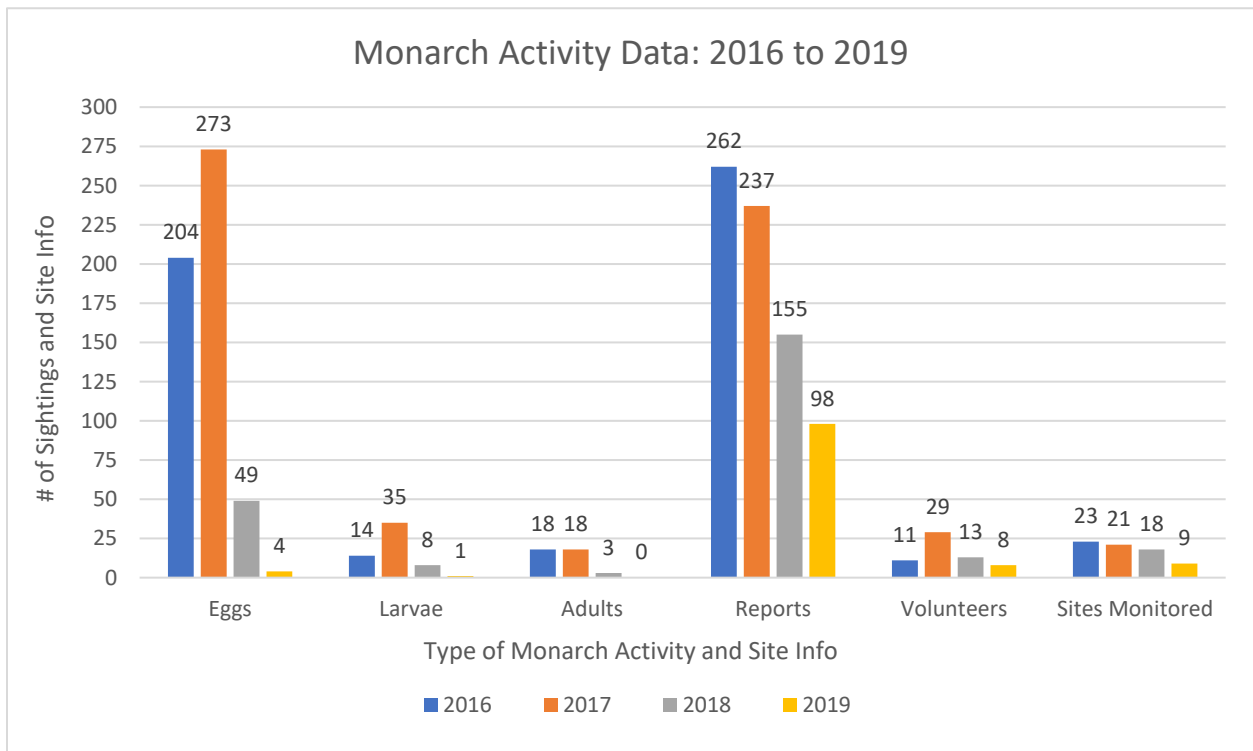


Figure 2 - BPR Monarch Data 2016 - 2019

Ann Morrison Park

Two volunteers monitored one milkweed patch along the west side of Ann Morrison Park. No monarch activity was observed at this site. Volunteers noted that the patch was impacted by herbicide use (targeting Canada thistle) and mowing throughout the season. Plans are underway for volunteers to hand weed this area in the future in order to reduce the impact of weeds and herbicides on milkweed.

Bethine Church River Trail

Two sections measuring one-tenth of a mile each along the Bethine Church River Trail were monitored this season. One first instar larvae was reported in section 3.3 – 3.4. No adults or eggs were documented along the monitored portions of the trail. A range of insect species was documented on milkweed plants in this area including aphids, lady beetles, longhorn beetles and cobalt beetles.

Parkcenter Pond

This year, one volunteer monitored a site (site 2) at Parkcenter Pond. No observations of monarchs at any stage were reported. Longhorn beetles were observed periodically on milkweed at this site. In addition, it was noted that the flowers on some plants had been picked and discarded.

Hyatt Hidden Lakes Reserve

Hyatt Hidden Lakes Reserve was a new location to the program in 2019. Unfortunately, the milkweed patch was damaged early in the year by mowing. To protect the patch going forward, a Parks, Monarchs, and Milkweeds interpretive sign was installed to steer mowers away as well as educate visitors about BPR's efforts to maintain and enhance monarch habitat in parks.

Despite the early setback, the site continued to be monitored throughout the season and milkweed was monitored as it recovered. No monarchs were observed at the site. Longhorn and lady beetles were observed on plants throughout the season and the plants did recover over the course of the summer. Our hope is that that this patch will expand as time goes on. A few plants were documented on the south side of the park this year and we hope that eventually a new milkweed patch will develop in the area.

The Future

Although the number of volunteers and observations of monarchs were both down this year as compared to previous years, it is our intention to continue to grow the volunteer program and expand milkweed plantings in parks. Volunteers dedicated approximately

28 hours to monitoring the development of milkweed plants and searching for monarchs this season. Although very few monarchs were observed this year, the data collected regarding the condition, number and stage of milkweed plants is critical in assisting researchers in developing a recovery plan for the Western monarch population. We hope to boost volunteer numbers this season by recruiting from the newly formed City of Trees Master Naturalist chapter, as well as reaching out to the broader community.

References

- Hietala-Henschell, K. (2019). *New Year's Count of Western Monarchs Confirms Decline, Trends Seen in Previous Years*. Retrieved from <https://xerces.org/blog/western-monarch-new-years-count>
- Xerces Society for Invertebrate Conservation. 2019. *Western Monarch Count Resource Center Data*. Retrieved from <https://www.westernmonarchcount.org/data/>