

Notes on the monarch butterfly colony on Albany Hill

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Monarch butterfly migration

(Parts of this section taken from an Albany Patch article on Nov. 13, 2011, by Mary Flaherty)

Monarch butterflies get a lot of acclaim because they are one of only two insects in the world known to make a true, annual migration, traveling up to 3,000 miles every fall to warmer climates.

During the summer, monarchs live throughout the United States and southern Canada. Come fall, the monarchs east of the Rockies make their way to Mexico, where they gather by the millions in the Michoacan region.

Monarchs west of the Rockies head mainly to 80 or more coastal California sites, from lower Mendocino County down to the Mexican border. The Bay Area is home to a dozen or more small sites, including Albany. The California coast is not a stopping point for the monarchs; it is their winter destination.

When the monarchs arrive at their wintering site – amazingly often the same site their ancestors used in years past (no one knows yet how they do it) – they cluster together in trees that provide protection against winter storms. Scientists believe that, historically, monarchs roosted mainly in Monterey pines and cypress, but they have adapted to the non-native eucalyptus, whose winter blossoms offer food. Most monarch wintering sites in the Bay Area are now in eucalyptus trees.

In the spring, the monarchs that survived the winter disperse, vacating the winter sites. They are in search of milkweed, the only plant on which they lay their eggs. Historically milkweed was not present here at the coast, which is why most of them migrate, presumably. Where there was plenty of milkweed, historically, to the east, it gets too cold for them to survive the winter.

Monarch butterfly colony on Albany Hill

The monarchs start arriving at Albany Hill in early October and gradually build in number, roosting in groups in the eucalyptus. (Eucalyptus at both Albany Hill and Point Pinole – another monarch overwintering site -- were planted by the Giant Powder Company, later called Atlas Powder, in order to buffer neighboring communities from accidental explosions.)

Throughout October, the monarchs roost in “autumnal,” less protected, sites, generally near the summit of the hill. As it gets colder they shift down the hill to the west in various trees, sometimes moving around nightly. During the day, when warm, they tend to cluster higher, not always where they are spending the night.

I have been counting the monarchs on Albany Hill for the annual Thanksgiving Week Count organized by the Xerces Society, for six years. I attend annual training sessions presented by Monarch Alert and the Xerces Society to practice counting and estimating, and then compare results with other volunteers.

With binoculars, I count individuals in the clusters, but have to estimate and add numbers if I can't see the cluster from all angles. If possible I count from two different angles. It takes an hour or more to count the butterflies.

To count the monarchs, one has to find the clusters when they are

cold and still (often not easy), as so many are in the air when it is warm. This year (2011) I counted 1,500 in early November, and on November 22, I counted **2,137**. This is the number I submitted for the Thanksgiving Count. In February there still were at least 1,000 monarchs, of both genders at the site.

As the winter proceeds, the monarchs will mate around February and then the females will leave for the valley, foothills, and mountains to lay eggs. A lot of the males will stay and live for a few more weeks. In the summer you still will see monarchs occasionally throughout the Bay Area, as some are breeding here on milkweed that people have planted.

Here are the monarch numbers for Albany Hill since 1997, compiled by Dennis Frey and Mia Monroe. Anecdotally, the numbers were apparently much higher in decades prior to 1997 all over the Bay Area. Many of the years on this list, there were more monarchs flying than are officially reported, as the protocol insists that only roosting (non-flying) monarchs be counted. When numbers are low it can be very difficult to find the roost, a small camouflaged clump that moves often.

97	3000
98	85
99	3
00	0
01	0
02	0
03	no report
04	no report
05	350
06	no report
07	0 roosting, some fliers
08	83
09	18

10 9
11 2137

As you can see there was a huge – and unexpected – surge in monarchs this year, not just on Albany Hill, but all over California. The most popular theory for the resurgence seems to be the increase in rain last year, which would have meant an increase in milkweed. More specifically there was rain late in the season, which would have benefited the milkweed even more.

Due to local press on the butterflies, this winter I often ran into people on the hill looking for the butterflies. They were invariably really excited at the spectacle.

Monarch butterfly habitat preservation

A group called the Creekside Center for Earth Observation in Menlo Park has done the most work on assessing monarch overwintering sites, and their publicly available recommendations for managing the habitats at Pacific Grove and Huntington Beach include useful guidelines for maintaining habitat.

They recommend a variety of microclimates in a wintering spot, with some areas well protected from wind by fairly dense canopy, but still having sun exposure part of the day as the butterflies must warm up to move. At other times they need less wind protection and want a more open canopy. Some fairly clear and sunny areas provide places to mate and find nectar, and this is where they congregate on sunny afternoons. Another important consideration is the general health and age of the forest, so that adequate protection and variety in the habitat can be continued into the future as the current trees age.

If there were ever a desire to get a professional assessment of habitat needs specific to Albany Hill, Stuart Weiss at Creekside

Center is a logical person to talk to.

(<http://www.creeksidescience.com/>) He has also studied monarch sites at Fort Baker (Marin), the Presidio, and Andrew Molera State Park (Big Sur).

Since there are now open and denser areas on the hill and the monarchs are present, I would guess that removal of trees or extensive trimming should be considered carefully, especially near the summit and on the western slope below it. Overzealous trimming of trees at Pacific Grove coincided with a drastic reduction in numbers of monarchs using the site, possibly because of reduced shelter.

Other butterflies

The other most common species found at the top of the hill are Anise Swallowtails, Red Admirals, West Coast Ladies (all hilltopping species), and Western Tigers. The Tigers were present very late this year, into December, which is unusual.