The State of Western North American Monarch Butterflies

The Monarch butterfly (*Danaus plexippus*) has captured the interest and inspiration of many people. It’s beautiful orange, black, and white wings are notably recognizable to the eye, easy to identify, and their presence generally indicates signs of a change in the weather in the State of California.

Monarchs have also captivated the attention of the scientific and environmentalist communities for decades because of their annual migration from areas along the west coast of California down to the region of Baja California, Mexico, and back again. The migration has fascinated the public so much, that hundreds of people go to places where Monarchs fly from 500 km to 1600 km, stopping in large numbers along California Coastal regions such as Monterey, San Luis Obispo, and San Diego. There are actually six different species of the *Danaus* that migrate in this fashion, and some travel even further than the Western species (Reppert, S.M. & de Roode, J.C., 2018).

Monarchs typically breed in one specific type of plant, they metamorphize and begin their journey in North America, overwinter in Mexico, and make their way North again in the Spring, where they lay eggs in the plant. The plant serves as a feeding source for caterpillars. The metamorphized butterflies are important pollinators for trees and wildflowers, providing food to other animals (including humans), and are hearty weed eaters themselves (Korpella, R., March 2021).

However, recently, news of *D. plexippus* and other species of Monarch butterflies have indicated an alarming reduction in populations. Scientists have expressed concern that this catastrophic reduction in Monarchs may be directly connected to climate change (Conservation of Migratory Species of Wild Animals, 2020). Many scientific groups are racing against the clock to prove this hypothesis. For our project, we wanted to see if we could determine if climate change is really to blame for the loss of migratory *D. plexippus* populations.

References

Korpella, Robert. "What do Butterflies do for the Environment?" *sciencing.com*, https://sciencing.com/what-do-butterflies-do-environment-4580181.html. 20 March 2021.

Reppert, Steven M. and de Roode, Jacobus C. “Demystifying Monarch Butterfly Migration” Current Biology 28, R1009-1022, 10 September 2018