



In 2017 the Monarch Butterfly Fund issued a public challenge to create a system that could track the flight of individual monarch butterflies on their migration. Our eventual goal is to collect detailed information about the paths monarchs follow, both on their fall journeys and movement in, around, and among overwintering sites. We hope the analysis of the collected data will reveal answers to questions that are unanswered and lead us to questions that have not yet been asked. For example, how do the calendar date, geographic location, topography, and weather affect monarch flight? Armed with the new knowledge gained by following the data wherever it takes us, we will be able to modify existing protocols and to develop new strategies to protect monarchs. The goal of this challenge is to encourage scientists and engineers to create a ground-breaking technology that is both practical and affordable.

Several teams have taken up the challenge. Although the tracking we hoped for appears to be as yet out of reach with current technology, the laboratory of Dr. David Blaauw at the University of Michigan came the closest. Through the [M3 Monarch Migration Study](#) Dr. Blaauw and his colleagues are developing tiny sensors that can be attached to individual monarchs and record information throughout their flights. We are excited about the possibility and potential of a miniature “black box” similar to those found on commercial aircraft. To finance continuing development and nudge this concept towards reality, MBF has awarded \$10,000 to the lab.

Currently, the lab is recruiting volunteers to collect data through a device called a HOBO MX2202 data logger to measure and collect local temperature and light data. This information can then be used to calibrate the data collected from the sensors attached to the butterflies to identify where each butterfly is on each date during its migration. The stored data can then be remotely read out once the butterfly arrives at its destination. This is an exciting achievement that is leading us closer to tracking the flight of individual monarchs!

Just imagine what the future holds. Just imagine how much more we will understand about migratory flight. Just imagine how this new knowledge will take us forward towards our common goal of making monarch butterflies safer, healthier, more plentiful.

Want to know more? Please contact us at mbf@monarchconservation.org.