Florida Department of Transportation Research

Survey of Key Monarch Habitat Areas along Roadways in Central and North Florida

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Current Situation

The annual migration of the monarch butterfly is perhaps one of the most spectacular events on the planet. Each year, beginning in March, hundreds of millions of monarchs begin their journey of hundreds to thousands of miles, flying from roosts in Mexico to their summer homes in Canada and the United States. Millions of butterflies come to Florida each year, where they are important pollinators that help maintain the health and diversity of many ecosystems. In recent years, scientists have documented a decrease in the number of pollinators, including monarchs. This is especially true in Florida, where monarch populations have decreased significantly, and without intervention, the disappearance of the monarch from Florida is foreseeable.

A monarch butterfly feeds on a Florida milkweed.

Research Objectives

University of Florida researchers examined a large section of north central Florida to locate milkweed stands that serve as monarch breeding sites and to document their productivity and use by monarch butterflies.

Project Activities

Pollinators are critical to the health of the environment and specifically to the agriculture that supplies the majority of food in the United States. In recent decades, decreases in pollinator species, exemplified by a concerning rate of bee colony collapse, have drawn the attention of producers, scientists, and policy makers. In 2015, a presidential directive led to the Pollinator Research Action Plan to outline needs and prioritize actions in achieving specific goals aimed at sustaining and increasing pollinator populations.

The Pollinator Research Action Plan identified roadsides and other rights-of-way as priority areas where habitat could be expanded. To address this possibility, the researchers surveyed highways in north central Florida from Pasco and Orange counties in the south to Gadsden and Liberty counties in the north. Over 30 counties were included in the survey region. A total of 303 roadway locations were found to have one or more plants of the most important species of milkweed. The colonies included from one to 161 plants. Forty high density stands were found.

For each colony, a number of features were identified, including species of milkweed, number of plants, presence of seed pods, distance from road, presence of monarch eggs, and others. A large number of plants examined were productive. Data collected for each colony were entered into an Excel spreadsheet referenced to the geographical location of the colony. This information formed the basis of management recommendations and meetings with Florida Department of Transportation (FDOT) staff to discuss maintenance plans that would preserve milkweed stands. A Web-based map was produced to aid maintenance supervisors and crews in determining appropriate mowing plans. A pilot project for modified mowing was developed.

Project Benefits

Roadsides represent a significant investment and resource which can be maximized with proper management, in this case, benefitting Florida's agricultural producers and the diversity and health of Florida's environment.

For more information, please see www.fdot.gov/research/.