

Evaluating Landholdings for Monarch Habitat



- Identify monarch habitat locations and range in participants' service territories through development and application of a shared GIS model.
- Understand areas where monarch impacts should be avoided, and which areas should be protected.
- Inform decisions about which lands could be enrolled in a Candidate Conservation Agreement with Assurance (CCAA).
- Inform risk assessments for potential monarch listing.

Background, Objectives, and New Learnings

In December 2020, the U.S. Fish and Wildlife Service (FWS) determined that the monarch butterfly warrants legal protection under the Endangered Species Act (ESA). The species has suffered declining populations and are increasingly vulnerable to catastrophic events (storms, fires, floods, etc.). However, FWS is precluding the listing of the monarch at this time due to cost and competing priorities and intends to re-evaluate the decision in 2024.

Currently, the monarch is considered a Candidate Species for listing under the ESA. While FWS has predicted their next full analysis of monarch to occur in 2024, they are required to review Candidate Species annually. With rapidly evolving environmental, economic, and regulatory factors, reconsideration of monarch protection measures may be initiated at any time by the White House or via stakeholder petitions.

Given the geographic range of the monarch and its culturally iconic importance, the listing decision as threatened or endangered is likely to receive broad public attention and could have impacts for land managers throughout the United States. Further, based on FWS own assessment, the probability of the monarch surviving beyond 10 years (past 2030) is only 27%–33% (i.e., 67% to 73% probability of extinction)¹.

The monarch butterfly Candidate Conservation Agreement with Assurance (CCAA) for Energy and Transportation lands is a way to establish more certainty regarding the future liability of a monarch listing. It is open to lower 48 states (not eligible in Hawaii), non-federal entities with fee simple, leasehold, easement, or other property interest on lands managed for energy and transportation purposes².

Whether the monarch is protected by ESA or not, it is a culturally and ecologically important species. Companies need to understand how much monarch habitat they manage, where to avoid impacts, and which lands to enroll in the CCAA, if any.

The objective of this project is to develop a shared GIS modeling protocol and apply it to participants' landholdings to identify likely monarch habitat locations and range. This can be used to inform company decisions about locations where impacts likely need to be avoided or possible monarch protection measures to be put in place. It can also be used to inform company decisions about which lands, if any, they should enroll in the CCAA.

New learning from this research are expected to include a shared modeling protocol to be developed using GIS, as well as the results of the model application to individual landholdings of project participants.

¹ <https://www.fws.gov/savethemonarch/pdfs/Monarch-SSA-report.pdf>, p. 75.

² <https://www.fws.gov/savethemonarch/ccaa.html>

Benefits

The research may ultimately help contribute towards monarch butterfly conservation, an important public benefit. This project also aims to increase companies' confidence in decision making through its science-based modeling approach; help quantify associated planning costs and risk; and facilitate more timely planning processes.

Project Summary

The project includes the following tasks:

- **Establish a species expert steering committee** of monarch scientists to help ensure that monarch habitat definitions are being appropriately translated to GIS indicators.
- **Map monarch habitat** using established methodology to develop a map of milkweed abundance for the areas in and around landholdings.
- **Develop the modeling protocol** to identify areas of high milkweed abundance that overlap with company landholdings.
- **Run the model** for all project participants.
- **Report results** for each participant

Deliverables

- Modeling protocol applied to all funders.
- Company-specific presentation and report summarizing results, as well as a meeting to review the results and how they can be applied to inform monarch strategy and CCAA participation decisions
- A final report summarizing the overall approach and non-confidential collaborative project findings.

Price of Project

The price to join this project is \$38,500. This price assumes availability of specific GIS data. EPRI plans to assess data availability for each participant upfront, and if data are unavailable or incomplete, additional scope/price options can be discussed. The project qualifies for tailored collaboration (TC) or self-directed funding (SDF).

Project Status and Schedule

The project is planned to begin in January 2021 and continue through March 2022.

Who Should Join

Electric power companies whose service territories overlap with potential monarch habitat.

Contact Information

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 (askepri@epri.com).

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