

# The Conservation Biological Control Short Course: A Train-the-Trainer Approach to On-Farm Beneficial Insect Conservation

SARE Project No: ENC13-140

Eric Lee-Mäder<sup>1</sup> and Thelma Heidel-Baker<sup>1</sup>

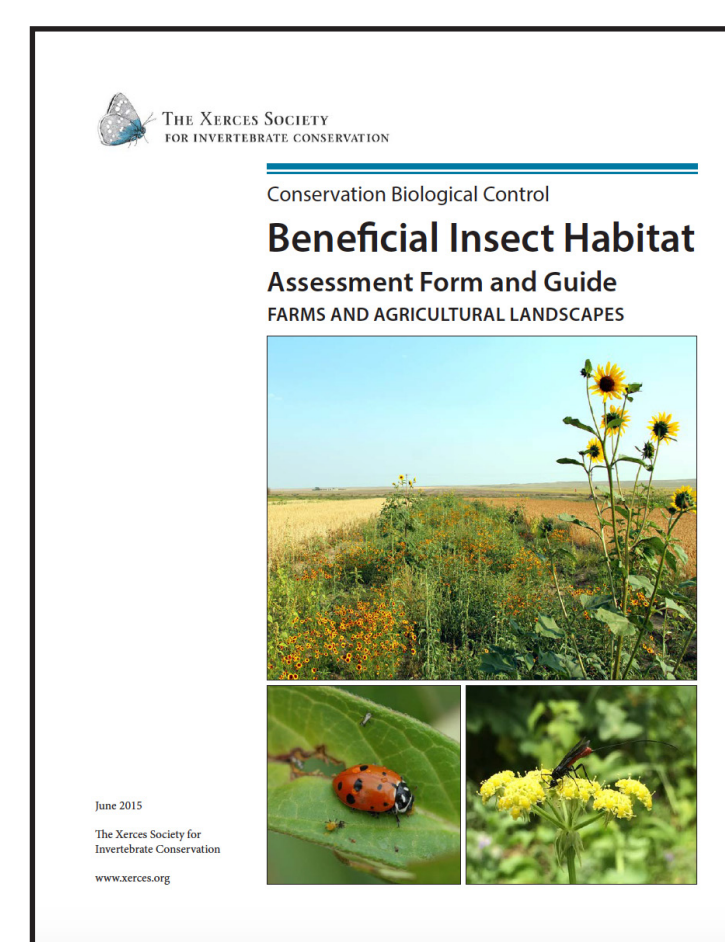
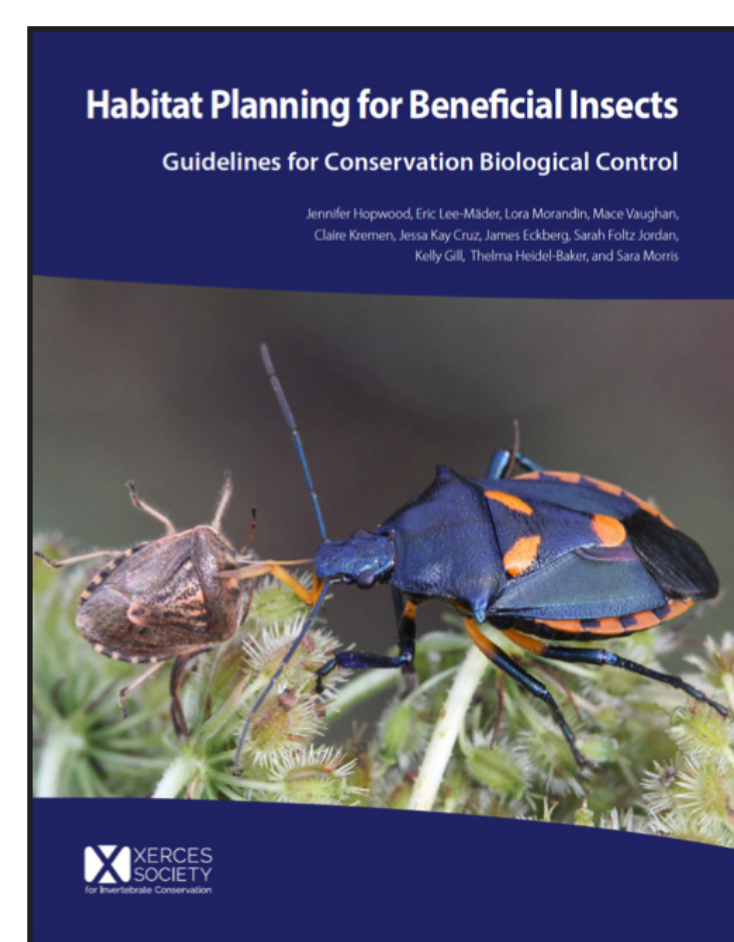
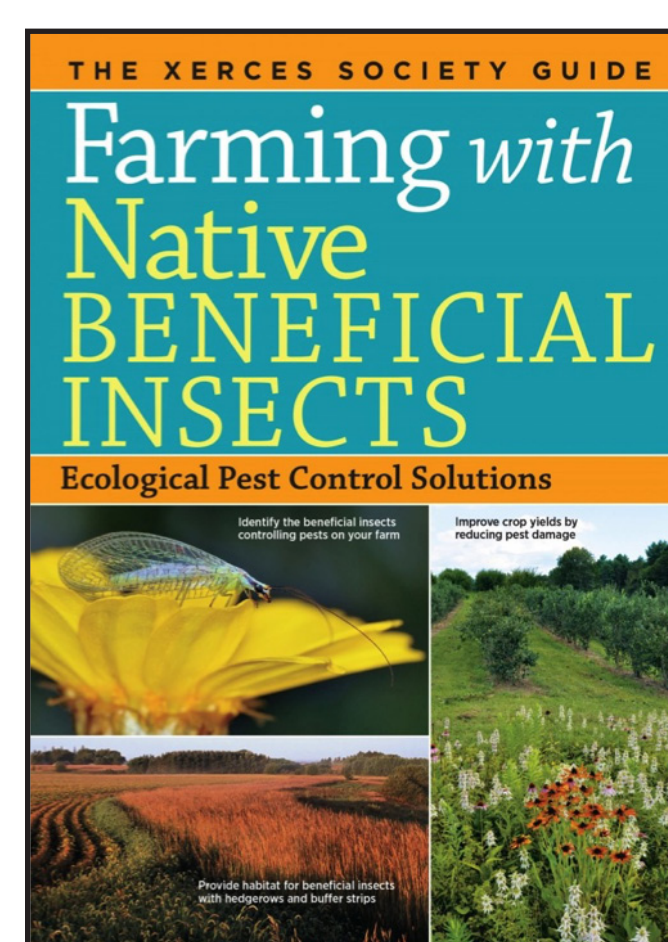
<sup>1</sup>Xerces Society for Invertebrate Conservation, Portland, Oregon. Contact: [eric.mader@xerces.org](mailto:eric.mader@xerces.org)



## Project Introduction

Native insects that feed on crop pests are an overlooked resource in agricultural systems. Although vast numbers of such beneficial insects are at work on farms across the world, they are eclipsed in farm education by a smaller diversity of pest species. Yet a growing body of research demonstrates that natural pest control benefits a wide array of farmers, from blueberry growers in Michigan to row crop farmers in Iowa.

To address this education opportunity, the Xerces Society developed the Conservation Biological Control Short Course. In this train-the-trainer approach, we reviewed the latest research on beneficial insect conservation and offered realistic solutions for enhancing beneficial insect populations on farms.



Conservation biological control print publication resources developed by the Xerces Society. Copies of each were provided to short course participants.

## Project Objectives

In addition to furthering basic awareness and knowledge regarding conservation biological control in the North Central SARE region, we also developed a plan to offer full-day training courses in each North Central SARE state, targeting farmers and agricultural support staff in each state.

Our basic goals at the onset of the project were:

- At least 30 participants per course
- Conservation practices adopted on at least 1,000 acres per course
- New enrollments in USDA conservation programs resulting from each course



Minnesota Course: July 2015



Illinois Course: June 2016



Nebraska Course: March 2017



South Dakota Course: October 2017

## Course Content

To ensure course content was similar for each training course, we developed a core set of course presentations. These included the following topics that were covered in each short course:

- Introduction to conservation biological control
- Overview of common beneficial insect groups
- Farm practices and pesticide risk mitigation
- Assessing baseline farm conditions for beneficial insects
- Designing and restoring habitat for beneficial insects
- Accessing technical and financial resources for insect conservation through USDA conservation programs

## Acknowledgements

Funding for this project was provided by a grant from North Central SARE under Project Number ENC13-140. Special thanks to all our many on-the-ground partners that helped in offering each of the 12 full-day short courses. These partners included staff from USDA NRCS, university researchers, extension staff, conservation districts, and many local farmers.

Photo credits: Justin McMechan (Nebraska group photo) and Thelma Heidel-Baker (convergent lady beetle and MN, IL, & SD course photos)

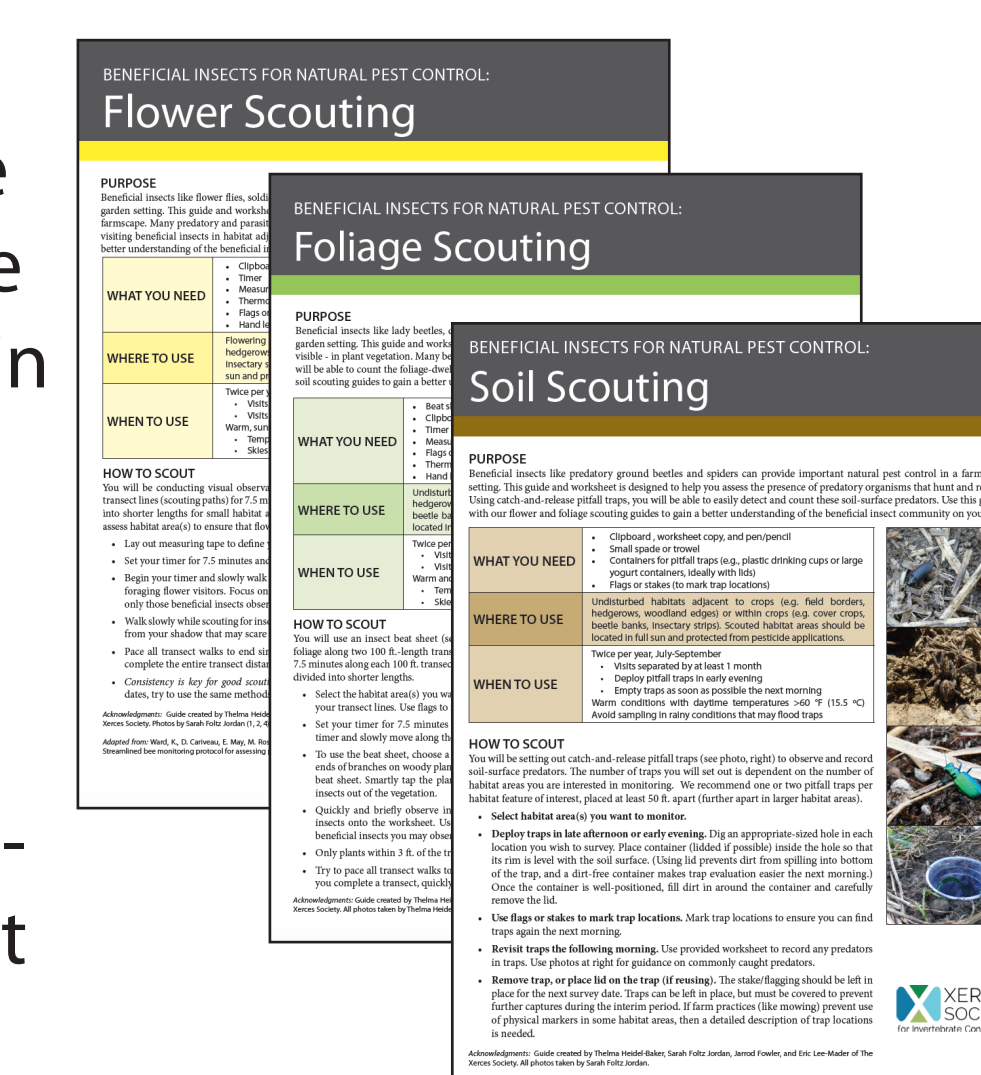
## Course Outcomes and Impacts

During this three-year project (2015-2017), we delivered 12 full-day Conservation Biological Control Short Courses, one in each of the North Central SARE states. We reached a diverse audience of 374 course participants. These participants primarily included USDA NRCS staff, university extension staff, university researchers, other agricultural service providers as well as numerous farmers. Through the use of course evaluations and follow-up surveys, our significant project results included:

- Over 30 participants on average at each course
- Over 900 acres of farmland managed for beneficial insects as a result of participants attending the training courses
- Over 480 acres of beneficial insect habitat created on farms as a result of course attendance
- 25 farms enrolled in NRCS conservation programs for beneficial insects

We developed a three-part beneficial insect scouting guide series to help course participants become familiar with where to look for the beneficial insect covered in the course. (See images to right.)

Through the use of a follow-up survey, we found our train-the-trainer approach improved the attendees' skills and capacity to implement beneficial insect habitat and adopt farm management practices such as incorporating flowering cover crops, reducing tillage, and changing pesticide use practices to protect beneficial insects.



Beneficial Insect Scouting Guides