



# Transportation Sector Update

Rights of Way as Habitat Working Group  
October 25, 2018

Kris Gade  
Arizona Department of Transportation

# Update Topics

- Research
  - NCHRP 20-119: Evaluating the Suitability of Roadway Corridors for Use by Monarch Butterflies
  - NCHRP 25-59: Regional Guidebooks of Current Practices for Roadside Pollinator Conservation and Endangered Species Act Compliance
- State DOT Activities/Survey Results

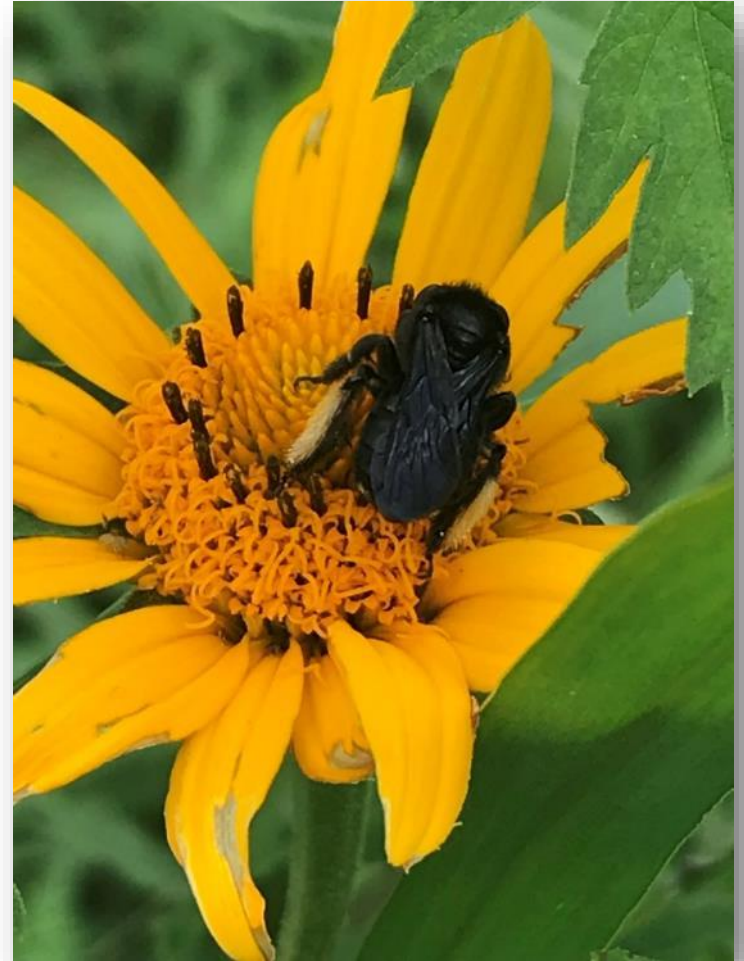


Photo courtesy of Illinois DOT



# Evaluating the Suitability of Roadway Corridors for Use by Monarch Butterflies (NCHRP 20-119)

*Funded by the National Cooperative Highway Research Program*

Alison Cariveau  
*MJV Science Coordinator  
St Paul, MN*

E Lonsdorf, E Snell-Rood,  
K Baum, E Anderson,  
J Hopwood



Photo: Jennifer Hopwood

# Tools for transportation managers to provide monarch habitat



Best  
Management  
Practices



GIS  
Prioritization  
Model



Rapid Field  
Assessment

Habitat  
Calculator



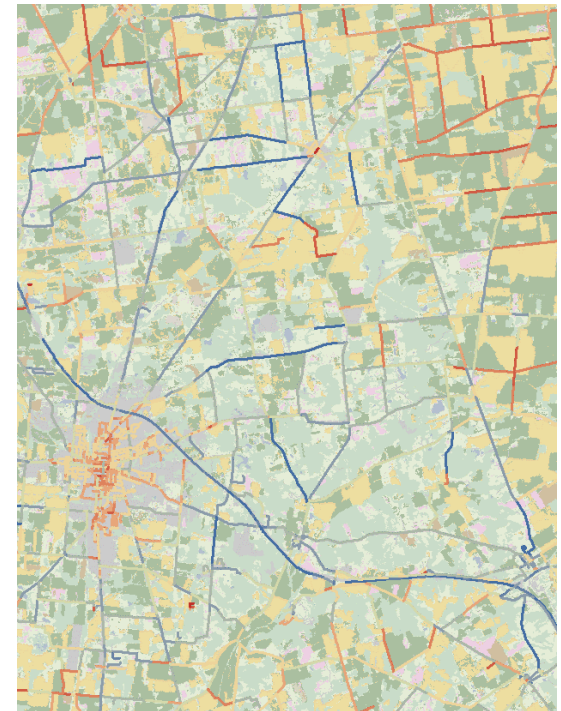
# GIS Prioritization Model

- Construction, Revegetation
- Where to Invest
- Rank Roadsides

- Wider

- By Natural Lands  
(fewer chemicals,  
weeds)

- Traffic Volume  
(collisions and salt, zinc,  
phosphorus, nitrogen)



Priority Area for Habitat

— High  
— Low

# Rapid Field Assessment (10 min)

- Walk 150 ft
- Zig zag across ROW
- Plants: milkweed, flowers, noxious weeds
- Width habitat, mowed
- Protocol compared well
- Monarch breeding on 35% of sites with milkweed





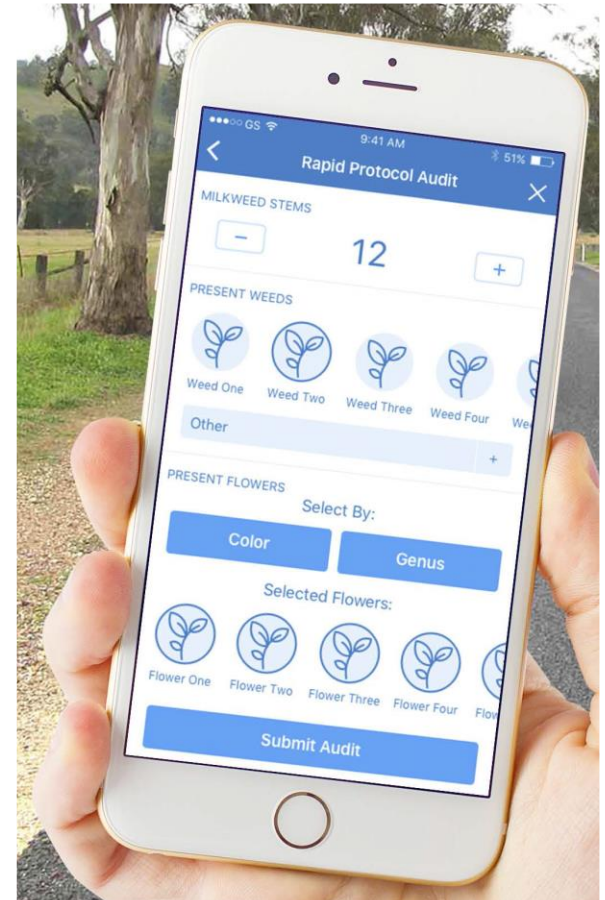
# Habitat Calculator

Rapid Field Assessment

Calculate habitat score

Identify exemplary sites or opportunities to improve

Connect to BMP's



# Regional Guidebooks of Current Practices for Roadside Pollinator Conservation and Endangered Species Act Compliance (NCHRP 25-59)

- Develop regional guidebooks for pollinator practices and Endangered Species Act compliance
- Hold regional peer exchanges
- Initial panel meeting next week, includes several members of the ROWHWG
- Research will begin in spring 2019, 2-3 year project



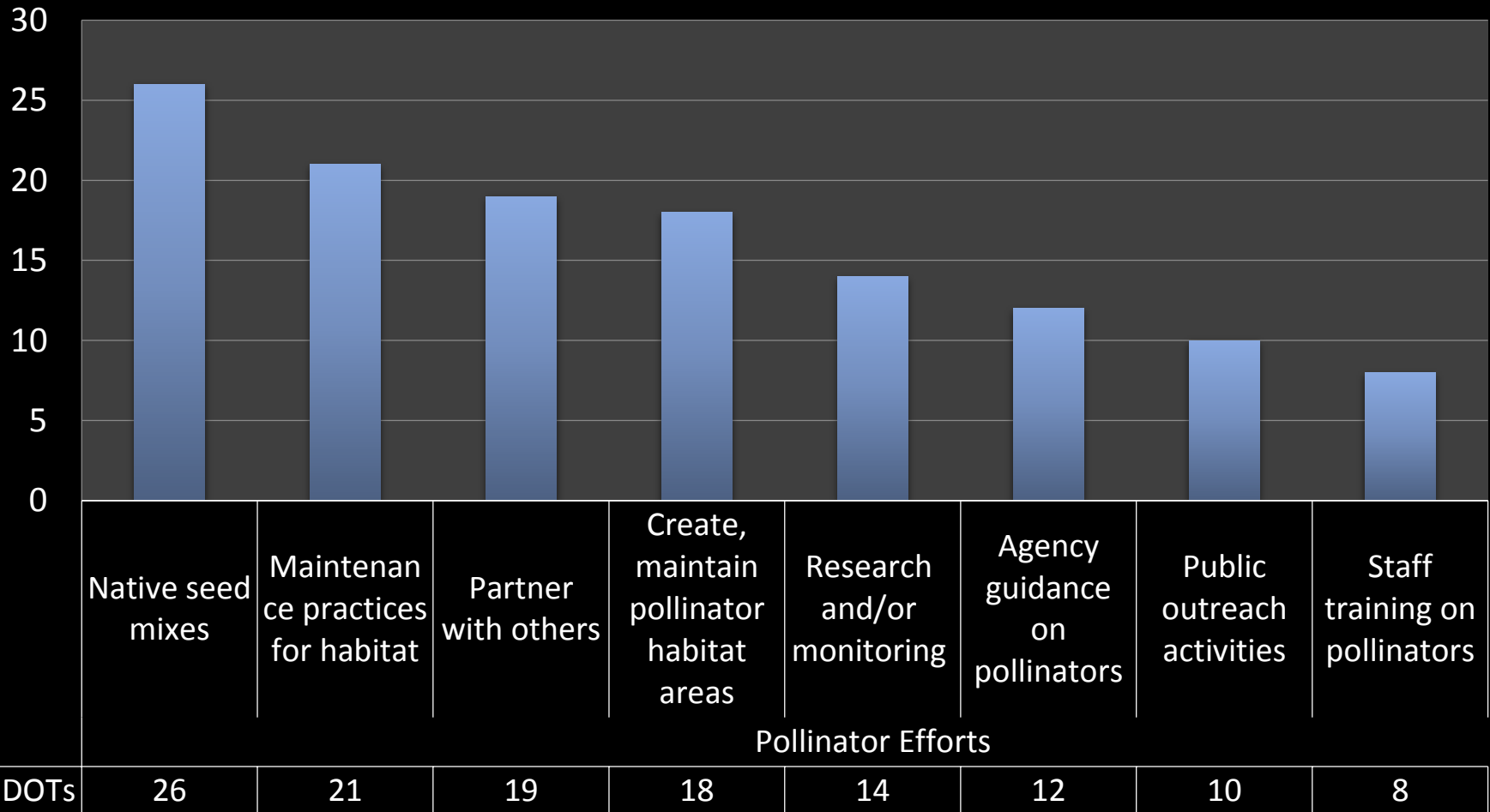
# Update on DOT Efforts

5 question survey on  
current practices for  
pollinators in general and  
monarchs specifically

Received 37 responses  
representing 29 state  
DOTs

# DOT Pollinator Conservation Efforts

State DOT Pollinator Efforts





# Use native seed mixes

Photo courtesy of Texas DOT – Wildflower program since 1930s



# Build/maintain pollinator habitat areas

Roadside pollinator habitat  
research plot in Nebraska,  
studying bands of different seed  
mixes.

Photo courtesy of Kayla Mallet,  
Univ of Nebraska-Lincoln







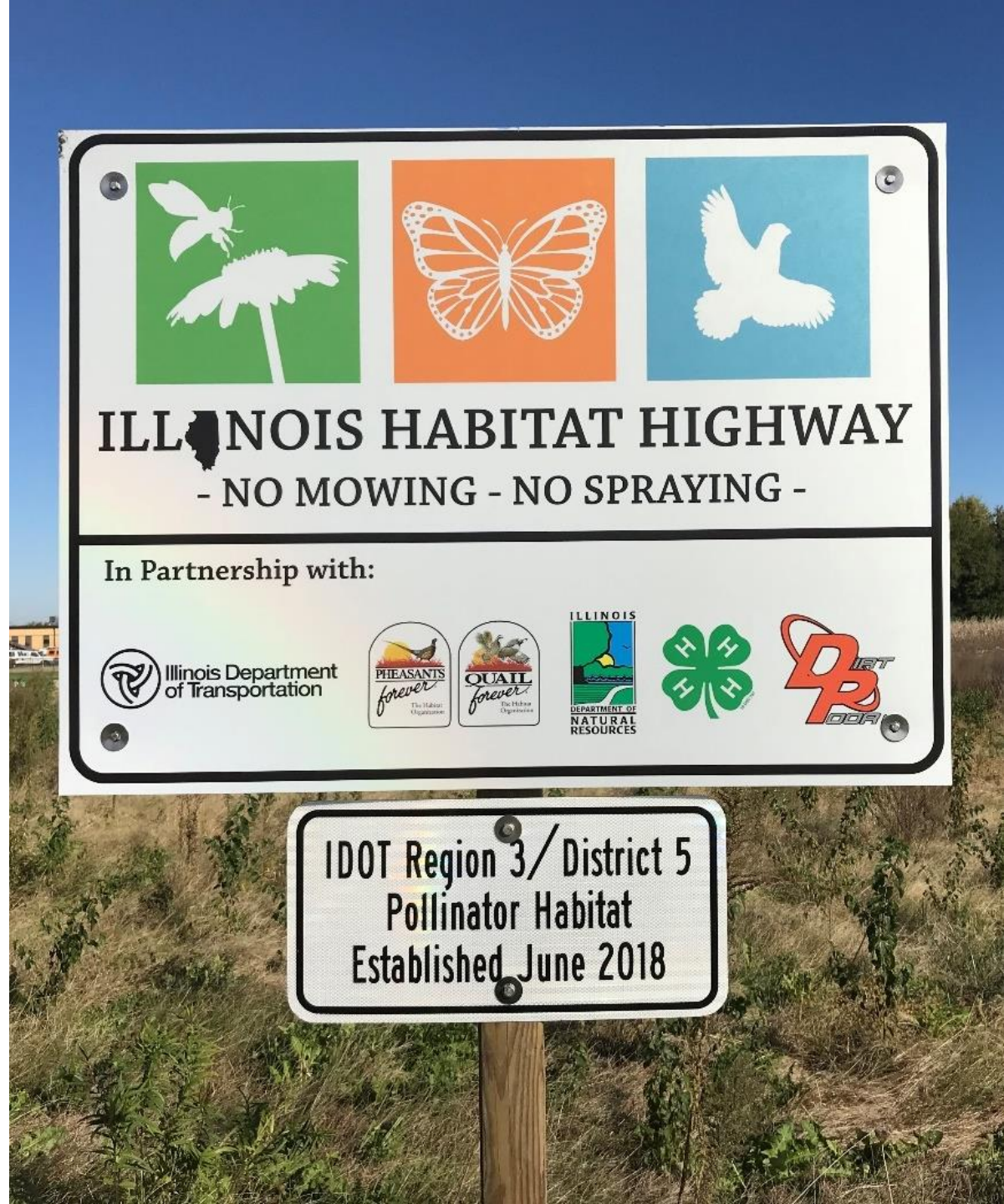
Use  
maintenance  
practices to  
conserve  
pollinator  
habitat

Roadside habitat in Iowa;  
photo courtesy of Iowa DOT



Partner with other organizations to promote pollinator habitat

Illinois DOT – new pollinator habitat in partnership with other organizations



Partner with  
other  
organizations  
to promote  
pollinator  
habitat



California DOT – Wildflower Adopt-A-Highway program



# Other pollinator activities

- Develop agency guidance related to pollinators
- Offer training to staff related to pollinators
- Ongoing research projects and/or monitoring of habitat in the ROW
- Conduct public outreach activities



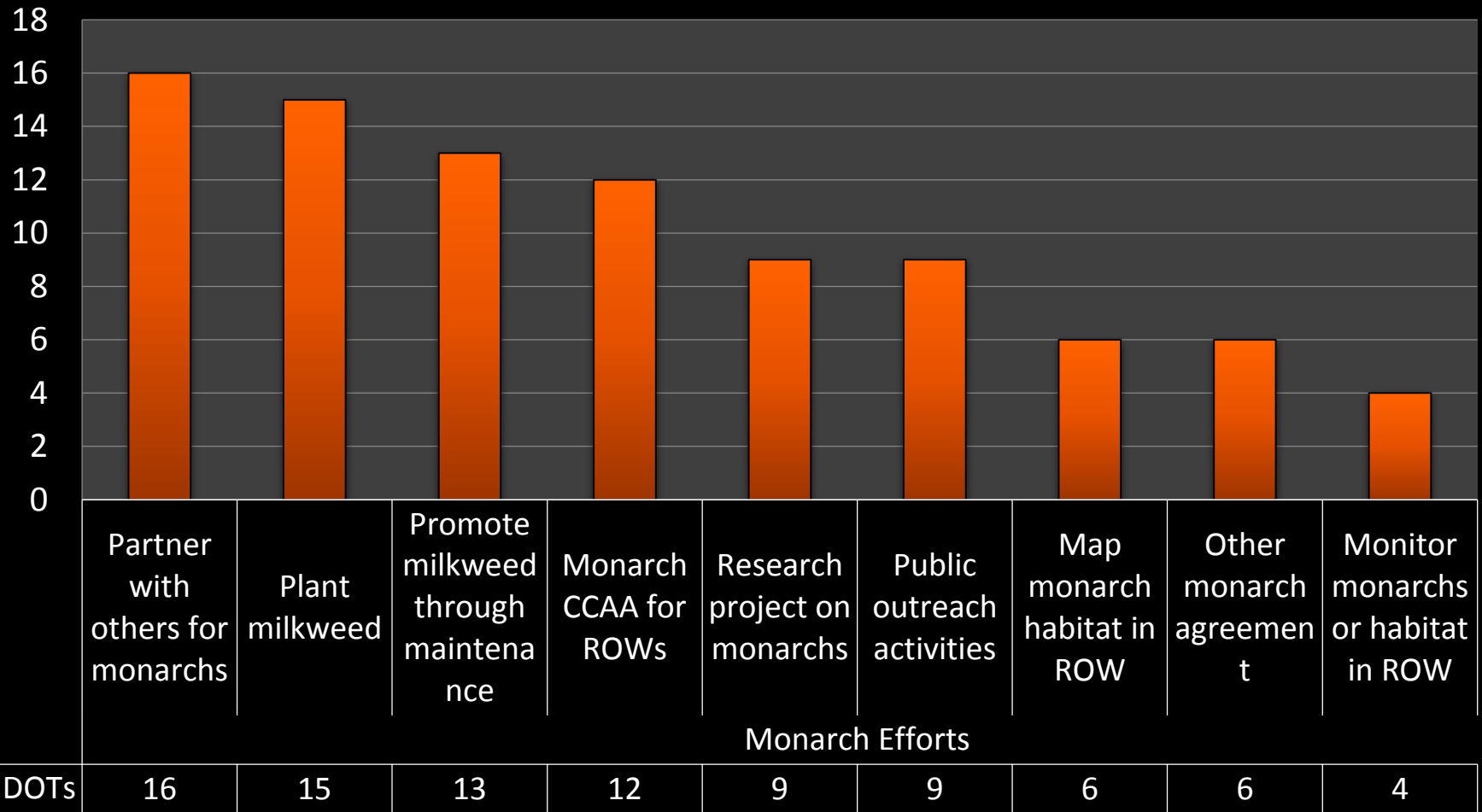
Delaware DOT – monitoring at mitigation site





# DOT Monarch Efforts

State DOT Monarch Efforts





Partner with others &  
public outreach

Texas DOT partnered with USFWS to develop Monarch Waystations at rest areas, which will be maintained by master naturalists.  
Photo courtesy of Texas DOT.





# Plant milkweed

Milkweed growing following a  
road and trail project by  
Minnesota DOT.

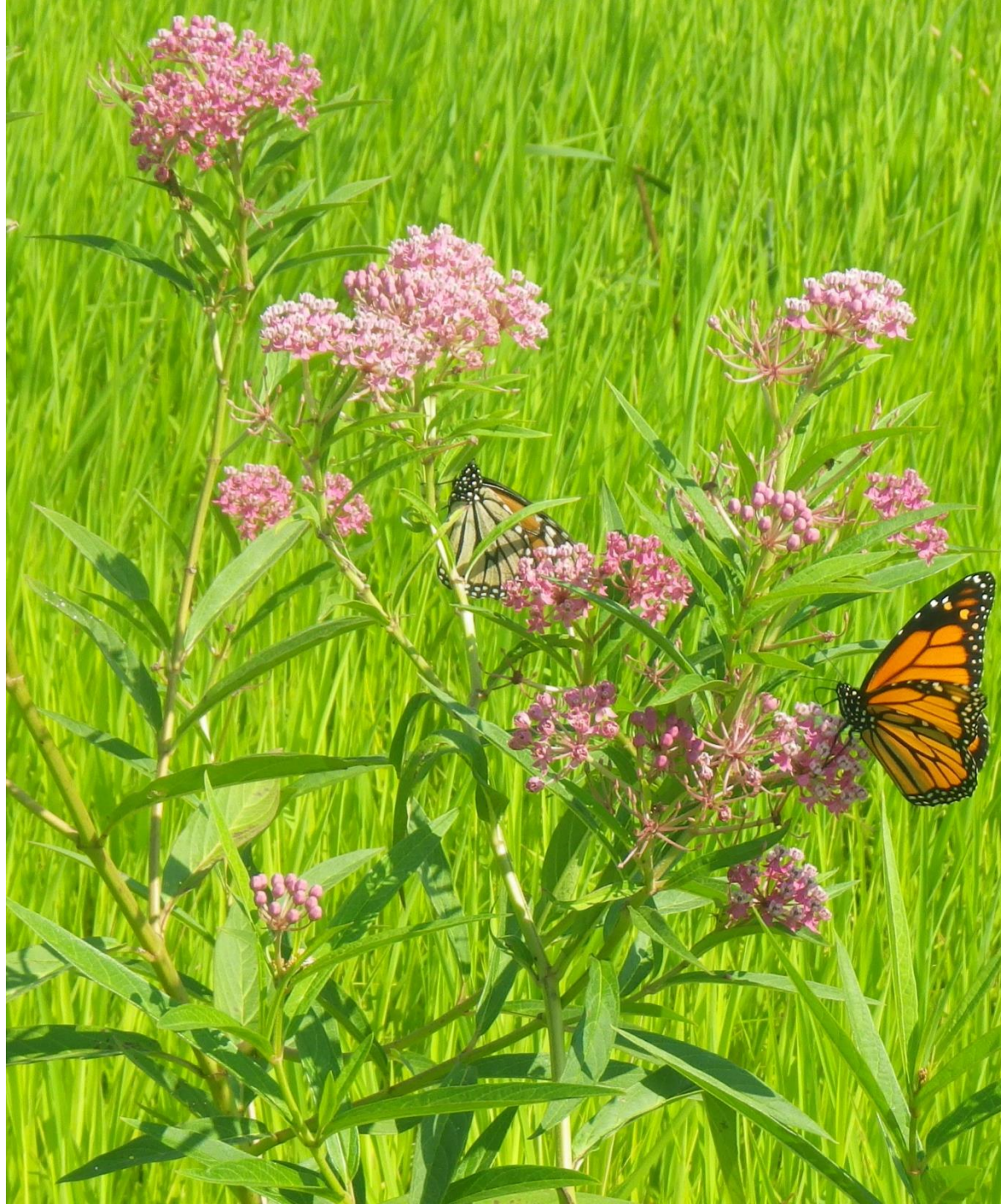
Photo courtesy of Chris Smith.



# Promote milkweed growth through maintenance practices

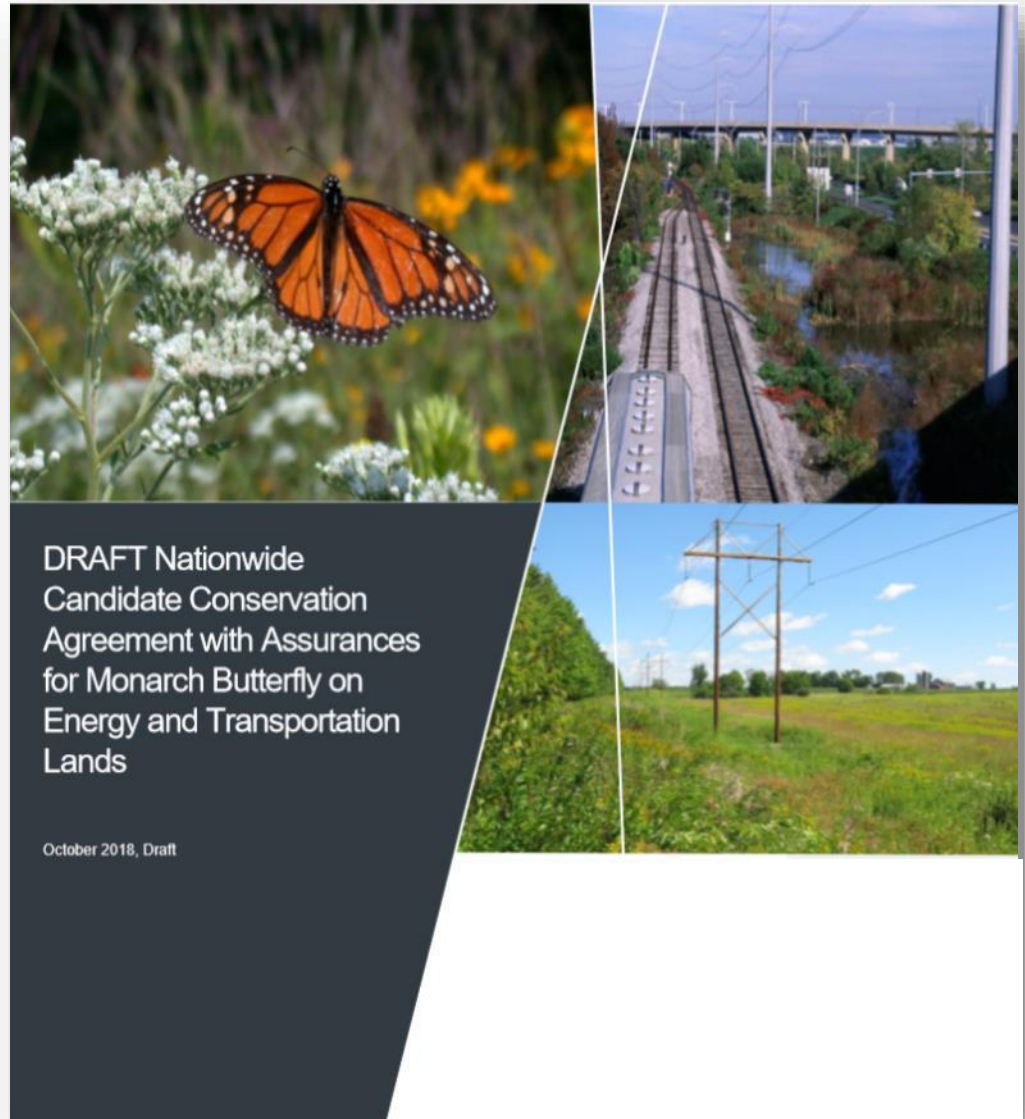
Milkweed and monarch at a  
mitigation site developed by  
Iowa DOT.

Photo courtesy of Iowa DOT.





# Participate in Monarch CCAA





# Other monarch activities

Illinois DOT – Monarch Joint  
Venture rapid field assessment  
training.

Photo courtesy of Illinois DOT



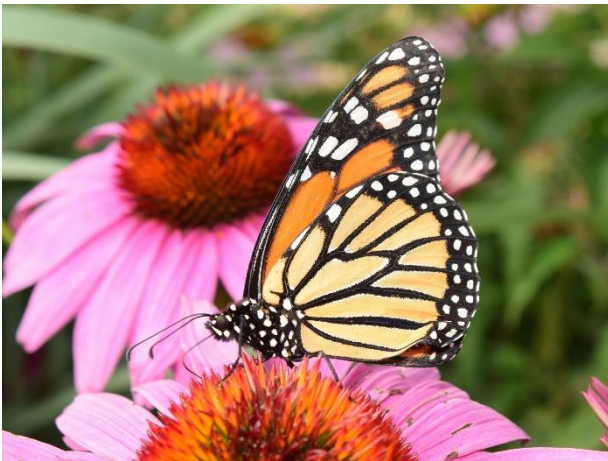
# Next steps

## Pollinators

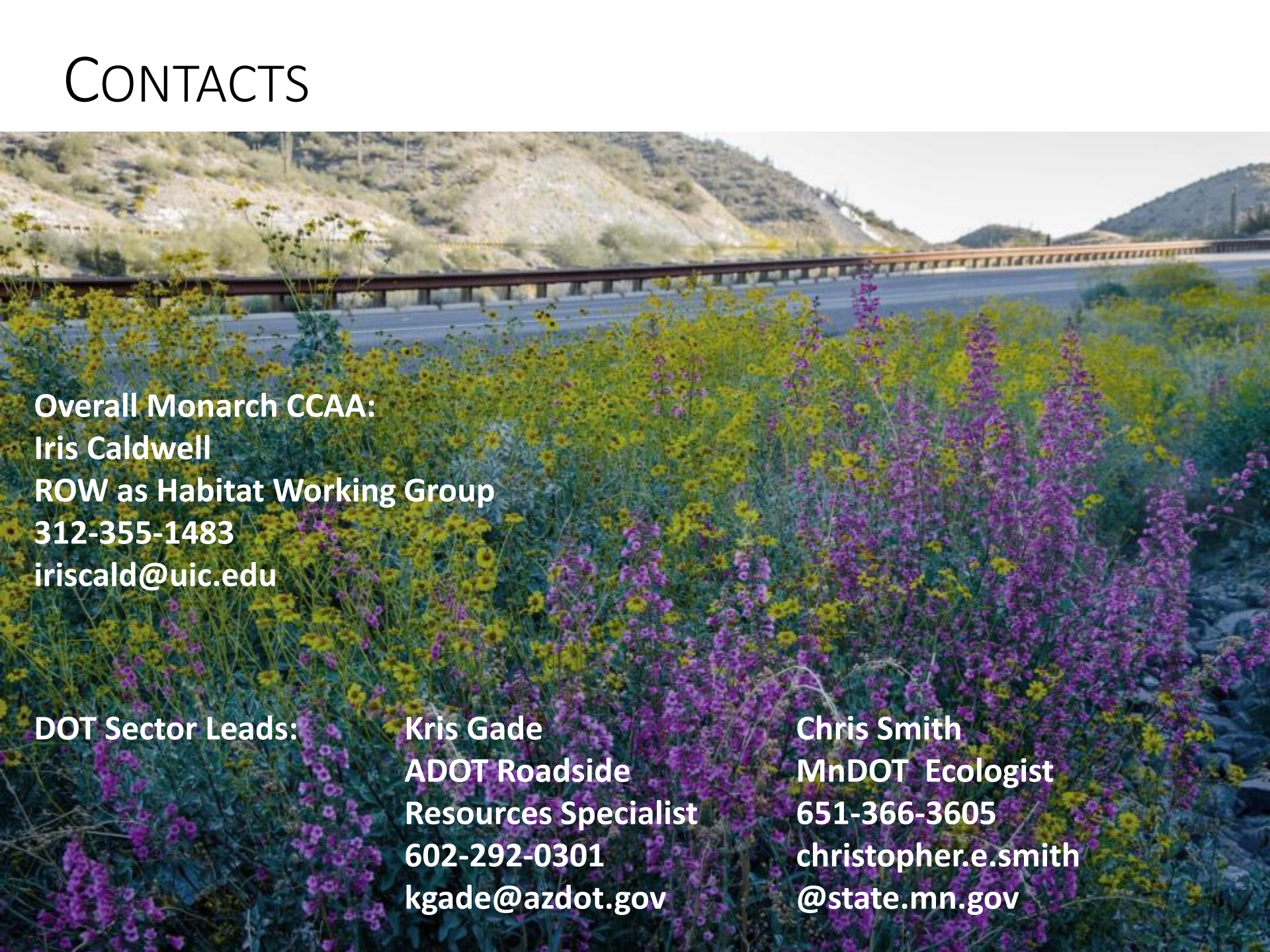
- Training for staff
- Development of agency guidance

## Monarch-specific

- Mapping/modeling suitable habitat
- Monitoring protocols
  - Both addressed by the current NCHRP study



# CONTACTS



**Overall Monarch CCAA:**  
**Iris Caldwell**  
**ROW as Habitat Working Group**  
**312-355-1483**  
**iriscald@uic.edu**

**DOT Sector Leads:**

<b>Kris Gade</b>
<b>ADOT Roadside</b>
<b>Resources Specialist</b>
<b>602-292-0301</b>
<b>kgade@azdot.gov</b>

<b>Chris Smith</b>
<b>MnDOT Ecologist</b>
<b>651-366-3605</b>
<b>christopher.e.smith</b>
<b>@state.mn.gov</b>