



Roadside Habitat Suitability

Laura Lukens, Monarch Joint Venture



Roadside Conservation Value

- Monarch habitat already exists in roadsides
- Pollinators are using it
- ROW corridors connect habitat
- ROWs needed to reach habitat targets
- Benefits outweigh risks (in most cases)



Sources: Kasten et al., 2016; Thogmartin et al., 2017; Daniels et al., 2018; Cariveau et al., 2019; Phillips et al., 2020; McLaughlin et al., 2020; McCoshum & Agrawal, 2021; more...



Roadside Habitat Risks

- Vehicle collisions
- Noise
- Light pollution
- Pollutants: salt, heavy metals, pesticides
- Management (e.g., mowing)



Sources: Snell-Rood et al., 2014; Mitchell et al., 2020; Keilsohn et al., 2018; Kantola et al., 2019; Mora Alvarez et al., 2019; Phillips et al., 2021; more...



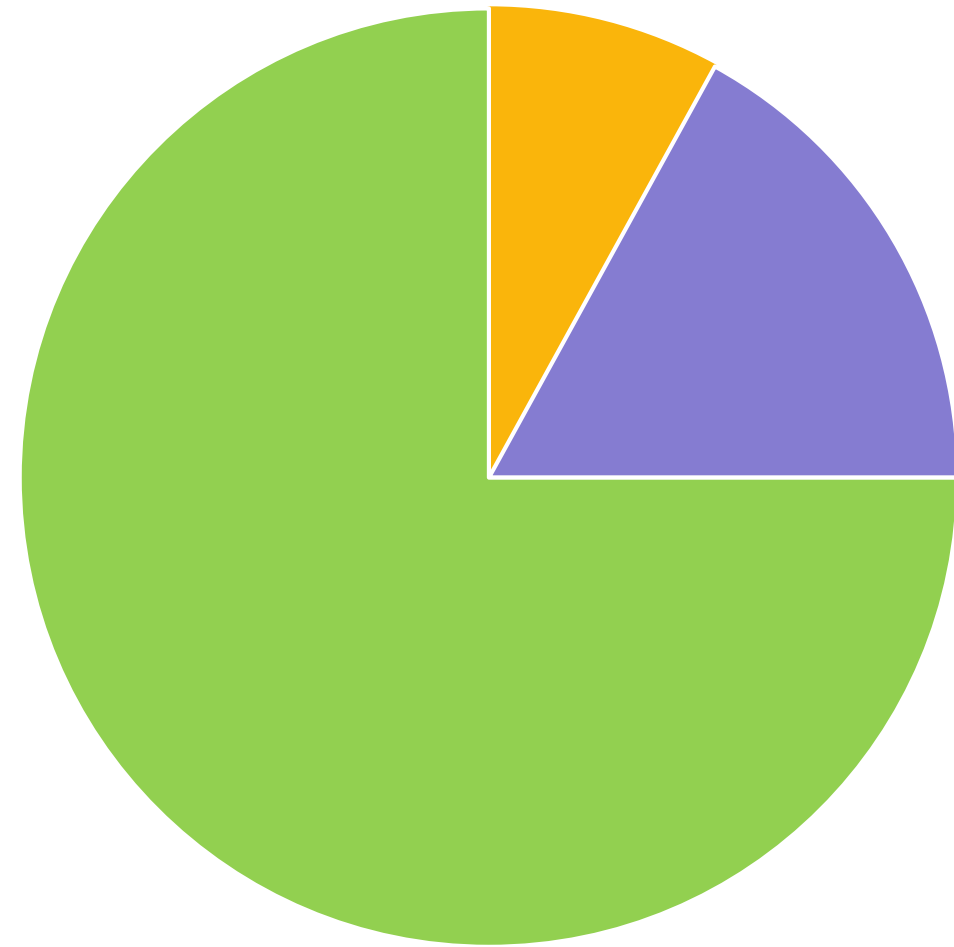
How can we mitigate risk?

Roundtables with experts & DOT representatives:

- **Oct 2021** – Began exploring current state of science and potential resources
- **Jan-Feb 2023** – Continued discussion, two roundtable meetings with 3 objectives:
 1. Understand current state of knowledge on monarch roadside mortality
 2. Determine if existing research is sufficient to provide recommendations for mitigating risk
 3. Identify who and what would be needed to identify BMPs



Is the existing research sufficient to generate recommendations for mitigating roadside mortality risk?



■ Yes ■ No ■ Mostly

n = 12 responses*

**Researchers, subject matter experts, and DOT representatives*





Photo: L Lukens / Monarch Joint Venture

Considerations Discussed

- Habitat distance from road edge
- Road type (traffic volume, speed, size, medians)
- Adjacent land use
- Habitat composition (width, vegetation)
- Management type & timing





Takeaways

- In many places, research is still largely inconclusive
- Start with basic recommendations where we can (e.g., distance from road edge – safety zone)
- Recommendations can't be the same everywhere
- Need to be adaptive & alter as we learn more

Photo: Jen Thieme / Monarch Joint Venture



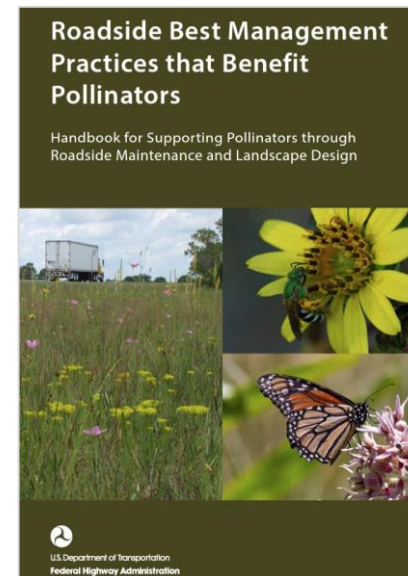
Next steps...

- Subgroup meetings
- Deliverables
 - Concise fact sheet – Roadside Habitat Conservation Value
 - Longer literature review summary
 - Updated Mowing Timing & BMP Handout
- Longer term: Regional practical guidance & BMPs, facilitate data sharing, track research opportunities



Key Resources

- Updated Monarchs & Roadsides FAQs
- Literature review summary
- Mowing timing & guidelines
- ROWHWG Resource Library
- Xerces Society Publications Library
- Handbook: Roadside BMPs that Benefit Pollinators



Roundtable Experts, DOT Reps, & Collaborators:

Bob Coulson, Texas A&M University
Caroline Hernandez, UIC Energy Resources Center
Catherine Liller, USFWS
Chris Smith, Minnesota DOT
Dan Salas, Cardno/Stantec
Emilie Snell-Rood, University of Minnesota
Glenn Gingras, Vermont DOT
Iris Caldwell, UIC Energy Resources Center
James Tracy, Texas A&M University
Jennifer Hopwood, Xerces Society
Katy Prudic, University of Arizona

Kris Gade, Arizona DOT
Kristen Baum, Oklahoma State University
Kristine Nemec, Tallgrass Prairie Center
Laura Lukens, Monarch Joint Venture
Luz Quinnell, CalTrans
Mercy Manzanares, Monarch Joint Venture
Rebeca Quinonez-Pinon, National Wildlife Federation
Sam Glinsky, Texas DOT
Sean Sweeney, USFWS
Tegha Obire, UIC Energy Resources Center
Vonceil Harmon, Oklahoma DOT



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 **THANK YOU!**

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