**Research Need Statement 505**

**Date:** April 6, 2017

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<tr>
<th>Need Statement Champion:</th>
<th>Dan MacSwain</th>
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<td><strong>Idea Originated from:</strong></td>
<td>LRRB Focus Group</td>
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**Select Program:**
- ☑ MnDOT
- ☑ Local Road Research Board (LRRB)
- ☑ Research
- ☑ Implementation

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<th><strong>Need Statement Title:</strong></th>
<th>Vegetation management practices to increase and enhance roadside pollinator and wildlife habitat</th>
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**Need Statement:** Describe the problem or the opportunity. Include background and objective.

Migratory pollinator species such as Monarch butterflies and other wildlife are at risk due to the loss of native habitats from increasing development, intensive agricultural practices, and greater use of pesticides. Roadside habitats, in particular, have grown in importance, especially as migratory corridors and places that aid in species dispersal and mixing.

We’d like to identify cost-effective roadside vegetation management practices that enhance the habitats of these migratory pollinators and wildlife.

To do this, we propose vegetation management case studies that include plant surveys (e.g., smooth brome grass), wildlife and pollinator surveys (e.g., Monarchs), best uses of various seeds, and determination of optimal locations for plants and maintenance operations.

We also propose to identify improved roadside maintenance practices and related training outcomes for local agencies, including:

- timing of mowing (for example, alternate years, half of the ROW)
- development of guidelines for haying (timing of haying to benefit plant species that benefit pollinators, and leaving refugia—milkweed for monarchs, tallgrass for pheasants)
- determination of what to mow and the best ways do it
- creation of pesticide-safe areas

Please submit completed form to Bruce Holdhusen (651.366.3760) at: bruce.holdhusen@state.mn.us or 395 John Ireland Blvd., MS 330, St. Paul, MN 55155
Provide a summary of the potential benefits:

- cost savings (reduced mowing costs)
- stabilizing migratory pollinator populations
- development of priority migratory corridors
- better informed decision makers
- possible large-scale implementation (for operators, supervisors)
- increased safety (for pollinators and people)
- project prioritization
- case studies
- design of practices
- types of practices
- increased pollinator services

How does this project build upon previous research (include title or reference to a completed research effort)?

- *Partnerships for Promoting Pollinator Habitat* (MnDOT TRS 1601, June 2016)
- pollinator surveys
- plant surveys

Provide names to consider for a technical advisory panel:

- Tina Markeson – MnDOT Office of Environmental Stewardship
- Todd Carroll – MnDOT Statewide Landscape Partnership Program
- Bryan Dodds – MnDOT Office of Land Management
- Ernest Lloyd – Minnesota Adopt-a-Highway Program
- Steven Lund – MnDOT Office of Maintenance
- Clark Moe – MnDOT Office of Maintenance
- Timothy Sexton – MnDOT Office of Environmental Stewardship
- Greg Hoch – Minnesota Department of Natural Resources
- Carol Andrews – St. Louis County, Minnesota, Department of Public Works
- Greg Isakson – Goodhue County, Minnesota, Public Works Department
- Gordon McConnell – Dakota County, Minnesota, Transportation Department
- Jodi Teich – Stearns County, Minnesota, Public Works Department
- Bob Vasek – MnDOT
- University of Minnesota
- Dan MacSwain – Washington County
- Karen Oberhauser – Monarch Joint Venture
- Sarah Foltz Jordan – Xerxes Society (conservation organization)
- Kevin Paap – Minnesota Farm Bureau

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- Pheasants Forever
- AMC – MCEA
- Dan Shaw – BWSR
- Steve Thomforde – Dakota County Technical College