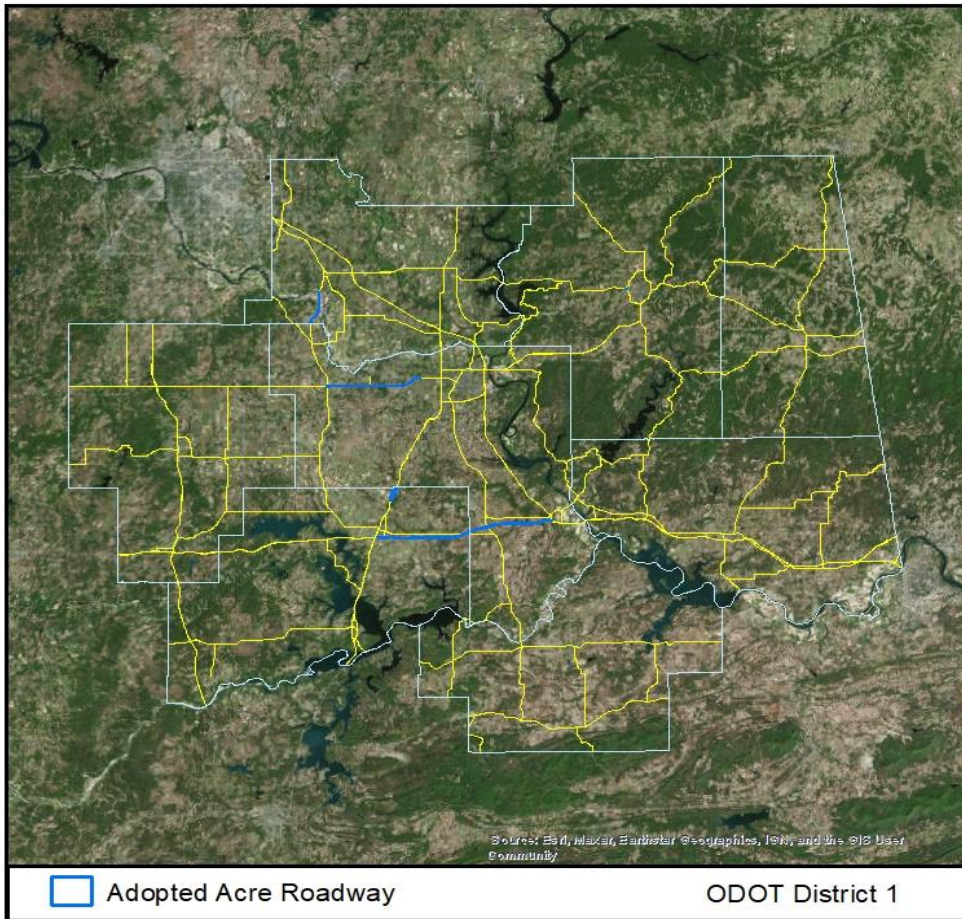


**District 1 Monarch CCAA Implementation Review**  
**2023-2024**

**District 1 Monarch CCAA Adopted Acres Map**



- I-40 from Checotah to Webbers Falls-396 acres
- SH 72 S From Arkansas River to Wagoner CL-31 acres
- US 62 Jamesville to Muskogee-145 acres
- US 69 from McIntosh Surplus Parcel N to McIntosh CL-26.5 acres
- McIntosh Surplus Parcel 35.539744°-95.504430°-63 acres
- Tahlequah Surplus Parcel 35.918949°-95.004112°-14 acres- not monitored in 2023

**District 1 annual estimated Monarch CCAA adopted acres contribution for 5 years**

District 1 Mowable acres	<b>14,683</b>
District 1 Adopted Acre Total @ 8%	<b>1,174</b>
District 1 Annual Adopted Acre Contribution	<b>235</b>
District 1 Adopted Mowable Miles	<b>194</b>
District 1 3 <sup>rd</sup> Year- 2023 Adopted Acreage Contribution	<b>661.5</b>
District 1 4 <sup>th</sup> Year - 2024 Adopted Acreage Goal	<b>940</b>
Acres Needed to Reach 4 <sup>th</sup> Year Goal	<b>264.5</b>

### **District 1 Monarch CCAA Monitoring Results**

District 1 Total Number of Roadway Plots Monitored	9
District 1 Total Milkweed Stem Count	698
District 1 Total Number of Monitoring Plots With 2 Milkweed Stems	9
District 1 Total Number of Plots With 10% or Above Nectar Plant Count	9

District 1 achieved their 2023 vegetative monitoring goals of 2 milkweed stems per plot and 100% of plots with 10% or greater beneficial nectar resource plants.

### **District 1 Monarch CCAA Conservation Measures Reported**

<b>CONSERVATION MEASURE</b>	<b>ADOPTED ACRES</b>	<b>ROADWAY</b>
Seeding and Planting to Create Habitat	0	N/R
Brush Removal to Promote Habitat	0	N/R
Idle Land Set Aside	63	Mcintosh Parcel 35.539744°95.504430°
Conservation Mowing to Enhance Floral Resources	598.5	I-40, SH 72, US 62, US 69
Targeted Herbicide Treatments	0	N/R

**District 1 Management Plan Contents**

**Section I. District 1 Area of Interest Habitat Suitability Map**

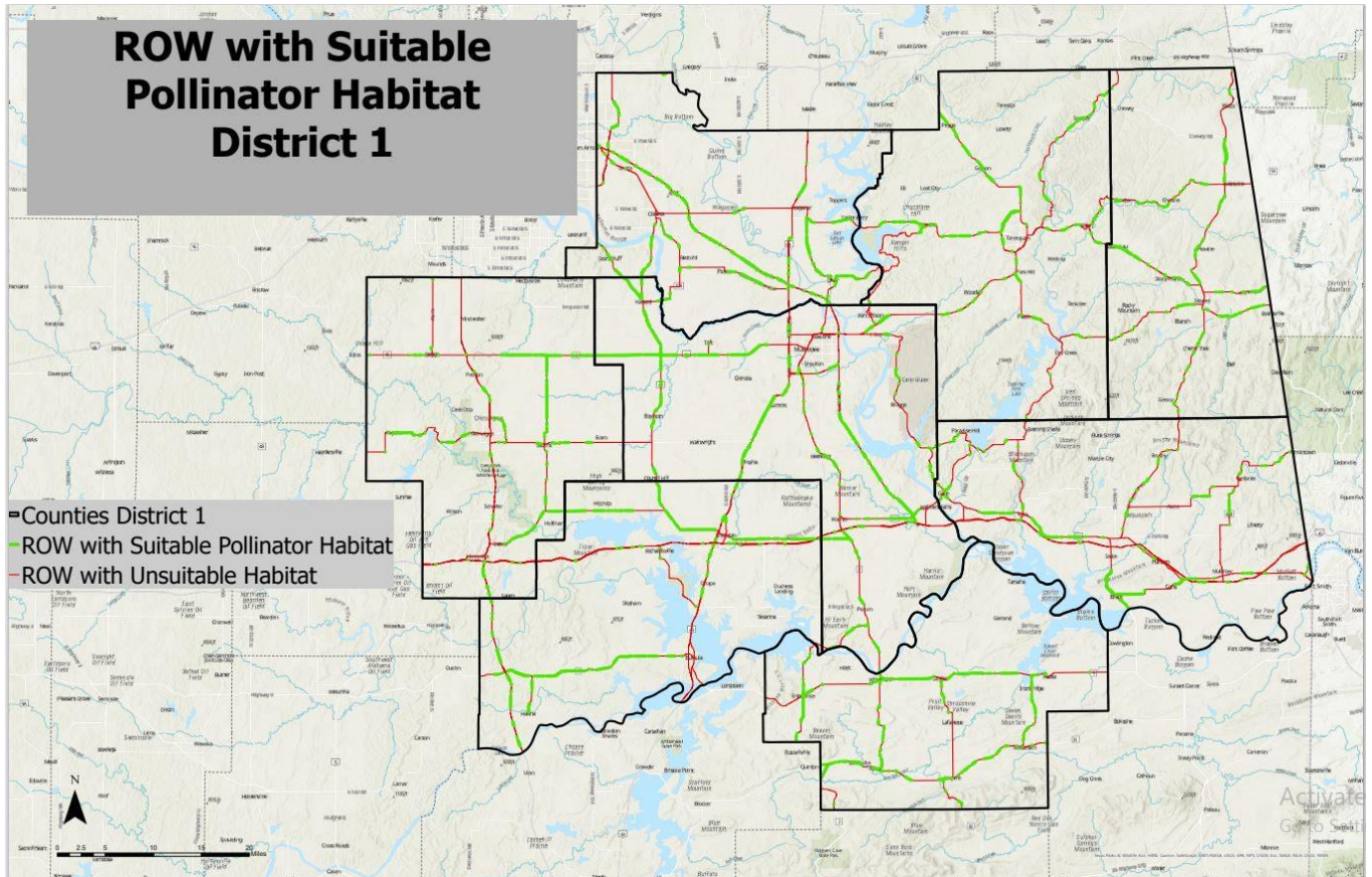


Fig.1

District 1	Total ROW Acres	Total Paved Highway Surface Acres	Total Mowable Acres
Excluding Tolls and Paved Highway Surface	20,402	5,678	14,683

Fig.1a

- ODOT total land system adopted acre target: 12,038
- District 1 annual estimated Monarch CCAA adopted acres contribution for 5 years

District 1 Mowable acres	<b>14,683</b>
District 1 Adopted Acre Total @ 8%	<b>1,174</b>
District 1 Annual Adopted Acre Contribution	<b>235</b>
District 1 Adopted Mowable Miles	<b>194</b>
District 1 3 <sup>rd</sup> Year - 2023 Adopted Acreage Goal	<b>704</b>

Fig1b

**Section II. Define Management Goals**

- Conservation measures to address loss of habitat due to mowing and herbicide applications
- Conservation measures to address lack of habitat and nectar resources

**Section III. Description of Recommended Best Management Practices**

- Conservation mowing to promote floral resources during monarch migration and breeding outside safety/ clear zone
- Timing of full width mowing if necessary

Early Season Mow	Mid-Season Mow	Final Season Mow	Clear Zone Mow
Completed <u>prior</u> to April 1  <b>(IF NEEDED)</b>	Completed <u>between</u> Late June – August 10 <sup>th</sup>  <b>(IF NEEDED)</b>	Completed <u>after</u> November 15 <sup>th</sup>  <b>(IF NEEDED)</b>	As needed  <b>(NO SEASONAL RESTRICTIONS)</b>

Fig 2. \*These dates are based on the current best available vegetative management data and may be modified as Department vegetative management research indicates.

- Timing of targeted herbicide treatments of undesirable vegetation outside monarch migration seasons
- Techniques and treatments to minimize overspray of desired pollinator vegetation
- Mechanical brush removal on adopted acres in the fall and winter
- Herbicide applications for basal and cut stumps, suckers, and regrowth
- Suitable monarch habitat set asides / idle lands defined
- District 1 identified set asides and idle lands

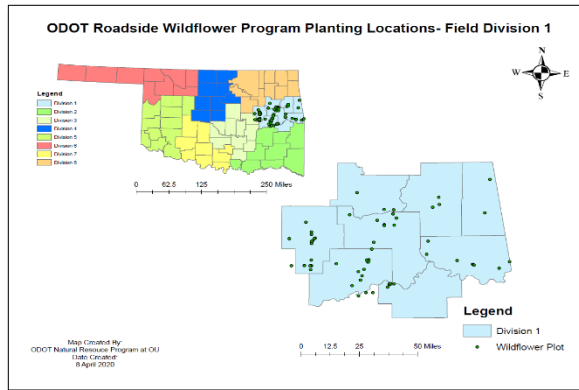


Fig.3 ODOT Beautification Wildflower Areas



Fig.4 District 1 Mitigation Areas

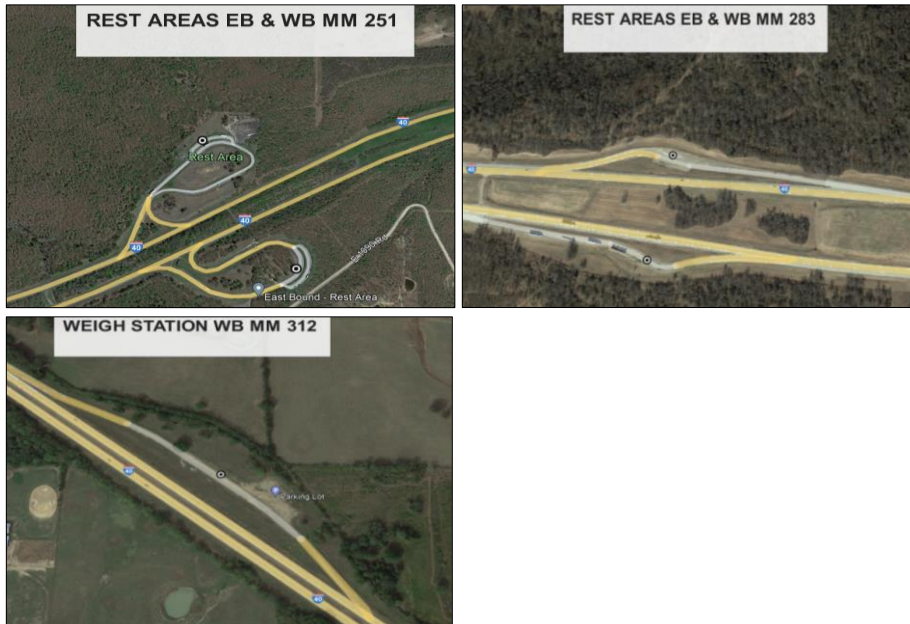


Fig. 5 District 1 I-40 EB & WB Rest Areas

**Section IV. Other Considerations**

- Native Seed Mixes for erosion control and habitat seeding
- Signage identifying adopted acre vegetative management areas



Fig.6

- Vegetative management technician training recommendations
- Additional monarch educational and identification materials

**Section V. Record Keeping**

- Vegetative management record submissions
- ODOT District 1 adopted acre annual tracking and reporting



**Section VI. Addendums**

- Erosion Control Mixes
- Monarch Seed/plant Mixes
- Native Seed Vendors
- Resources

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### **Section I. Area of Interest Habitat Suitability Map**

- Excluding paved highway surface and highway toll roads, ODOT Monarch CCAA enrolled and adopted acre numbers have been calculated using the amount of mowable acres within the land system and the CCAA Sector Specific Adoption Rate of 8%. ODOT's total enrollment acres equal 150,472 acres with an adopted acre target of 12,038 acres across the Department's total land system
- This target adopted acre total is expected to be realized over the next 4 years. District 1 annual estimated Monarch CCAA adopted acres contribution is depicted in figures 1a and 1b.

### **Section II. Define Management Goals**

- ODOT has identified conservation measures to address key threats, such as loss of habitat due to mowing and herbicide applications and lack of habitat and nectar resources within the Department's adopted acres. These measures include conservation mowing, targeted herbicide treatments, brush management and removal, and managing suitable habitat set asides and idle lands using integrated vegetative best management practices, and native seeding to restore or create suitable monarch habitat. All conservation measures will be implemented in accordance with the Department's policies, procedures, and specifications.

### **Section III. Description of Recommended Management Practices**

#### **Mowing**

- Maintenance District Engineers will collaborate with the ODOT CCAA Team contacts to determine the best conservation mowing approach for their respective District rights-of ways. Conservation mowing on the Department's adopted acres will be implemented to promote and enhance floral resources during migration and breeding in suitable monarch habitat areas outside the roadside clear/safety zone.
- Full width mowing should occur no more than 3 times per year (fig.2) and only if necessary.
- After clear/safety zone requirements are met, conservation mowing areas can extend to the rights-of-ways fence line in suitable monarch habitat areas encompassing the toe of slope in fill areas and the back of ditch in cut areas. Bottoms and backslopes may not need to be mowed as frequently depending on the quality of habitat and the weed and invasive species load.
- A variety of mowing techniques can be incorporated in response to roadside topography. These include strip mowing, contour mowing, and rotational location mowing as needed to control invasive weeds and woody vegetation.

### **Targeted Herbicide Application**

- The Department's herbicide program allows for each Maintenance District to target treatments to meet management situations and needs of the District. Targeted herbicide treatments of undesirable vegetation outside the clear/safety zone will be applied on the District's adopted acres with consideration of enhancing suitable monarch habitat and suppressing weedy plant species.
- Winter and summer windows of application will be used to ensure control is achieved before vegetation germinates, is able to mature and set seed, and during dormancy times. Consideration will be given to ensure applications are outside of the spring and fall Monarch migration seasons when monarchs are on the landscape.
- Expansion of the use of wiper technology per recommendations from the OSU-RVM Team can be used to remove johnsongrass and taller growing nuisance weeds from the adopted acre ROWs to allow the re-establishment of native milkweed, forbs, and desirable native grasses.
- Back-pack sprayers can be used to deliver spot treatments and minimize overspray of desired pollinator vegetation outside of the clear/safety spray zone.

### **Brush Management**

- Removal of brush and trees along rights-of-ways not only provides for the safety of motorists, but the action can also create travel and roosting corridors for monarchs.
- Wherever possible brush and trees outside the clear/safety zones and in suitable monarch habitat areas will be assessed for selective thinning and removal of unhealthy and invasive woody vegetation.
- Mechanical removal is best done in the fall and winter when monarch butterflies are off the landscape.
- Herbicide applications for basal and cut stump can be done year-round but should be applied as soon as possible after cutting and thinning. Suckers and regrowth will be spot treated during the active growing season.

### **Suitable Habitat Set Asides / Idle Lands**

- These monarch habitat set asides or idle lands are defined as lands maintained undisturbed by temporary losses from construction, maintenance, or vegetation management for one or more growing seasons.
- The ODOT NRP Monarch Team will work closely with Maintenance District 1 to quantify suitable monarch habitat set asides or idle lands within the District's adopted acres and identify perspective additional suitable Monarch CCAA idle lands on an annual basis.
- Construction activities that will affect these areas will be monitored from the ODOT 8 Year Construction Work Plan 2022-2029.



- Any vegetative management actions needed to enhance idle land/set aside monarch habitat acres will be performed outside of peak monarch breeding and migration seasons.
- The NRP Monarch Team will monitor these acres during the growing season and assist with developing idle land/set aside areas and BMPs with Maintenance District 1 as needed.
- Presently in District 1 these areas encompass suitable ODOT Roadside Beautification wildflower areas (Fig.3), ODOT wetland mitigation properties in Cherokee Co JP 23138(04) SH-51 14 Mile Creek Mitigation, Haskell Co JP 27046(04) SH-2 over Beaver Creek Mitigation, Okmulgee Co JP 13403(04) & 28855(04) Deep Fork Mitigation, Okmulgee 20903(04)(07) Tiger Creek Mitigation, and Wagoner Co JP 10004(13) CIP Mitigation (Fig.4), ODOT decommissioned rest areas at mile marker 251, mile marker 283, and mile marker 312 on WB and EB Interstate 40 (Fig.5).
- These set asides and/or idle lands may change as the District's maintenance needs or construction activities dictate, and the District's adopted acres will be adjusted accordingly.

#### **Section IV. Other Considerations**

##### **Native Seed Mixes**

- ODOT's NRP has proposed to establish native seeding areas to address erosion control, habitat enhancement, creation, and re-vegetation, for USFWS federally listed ESA endangered and threatened wildlife and plants. As part of that proposal the Environmental Division has developed seed mixes with the Oklahoma State University Department of Horticulture & Landscape Architecture and the Oklahoma Natural Resources Conservation Service.

##### **Erosion Control**

- Seed Mixes have been designed to replace non-native and invasive species used for erosion control as a seeding and sodding pay item specified in the Oklahoma Department of Transportation Standard Specifications for Highway Construction Manual. Specific native species have been added to these control mixes to provide nectar resources for monarchs and other pollinators.
- The NRP Monarch Team can assist District 1 in identifying particular seed mixes that will provide erosion control properties to fit the ecoregion needs of the District.

##### **Habitat Seeding**

- Native seed mixes have been designed to include plant species to create roadside environments that exhibit traits beneficial to pollinators and meet vegetative management requirements for Federally regulated species.
- The NRP Monarch Team can assist District 1 in identifying particular seed mixes that will provide nectar and milkweed species to fit the ecoregion needs of the District.



### **Signage**

- Conservation Monarch CCAA management and ODOT Beautification areas will be clearly identified with Department vegetative management signs (Fig.6) and equipment operators will be notified of these areas prior to any vegetative management activities.

### **Training**

- Mechanical operations will be conducted by ODOT Maintenance Technicians trained in proper trimming equipment operations or experienced contractors.

- Targeted herbicide applications will be performed by State certified pesticide applicators familiar with OSU-RVM Team approved herbicides .

- All brush removal personnel will be familiar with tree and woody vegetation common to the Department's rights-of-ways.

- The ODOT NRP Monarch Team will provide educational and identification materials to the District covering monarchs and their life cycles, nectar plants and milkweed species specific to the region.

### **Section V. Record Keeping**

- Mowing, brush, and woody vegetative removal actions will be captured in the Department's District Residency records and submitted to the ODOT NRP Monarch Team for inclusion in the Monarch CCAA Annual Report.

- Herbicide treatments, rates, and acreage data will be maintained in the District Residency records and captured annually in the ODOT Herbicide Program Survey which will be shared with the ODOT NRP Monarch Team for inclusion in the Monarch CCAA Annual Report.

- The ODOT NPR Monarch Team will track and report any changes to the district's adopted acres in the Monarch CCAA Annual Report and adjust acres accordingly.

### **Section VI. Resources**

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Oklahoma Department of Transportation  
Monarch CCAA 2023 Management Plan District 1

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