

Wildlife Habitat Evaluation Guide Datasheet for the Monarch Butterfly: Southern Great Plains

Owner/Operator:		Field Office:
NRCS Planner and/or Consulting Biologist:		Date:
Assessment Area:	Acres:	Ecological Site:

RAPID APPROACH: HABITAT SCREENING OF LOW VALUE PLANT COMMUNITIES

Select Appropriate Monarch Plant Community Type for AA	Benchmark Rating	Management Alternatives (Unless selected, label AA as <i>OUT</i> on the project map)	Planned Rating	Applied Rating
<input type="checkbox"/> Crop <i>Area is planted annually to produce a crop</i>	Poor	Decision maker will convert all or part* of AA to monarch friendly plants using Conservation Practice(s); Range Planting (550), Conservation Cover (327), Field Boarder (386), Riparian Herbaceous Buffer (390) or Upland Wildlife Habitat (645), with monarch habitat as the target conditions. -----And ----- If pesticides remain a risk, pesticides will apply in a manner that minimizes negative impacts to monarch butterflies or monarch habitat.	Good or Excellent	
<input type="checkbox"/> Intensively managed hay <i>Hayland that is commonly fertilized, mowed, and/or treated with herbicide resulting in low forb richness. Grasses often introduced.</i>	Poor		Good or Excellent	
<input type="checkbox"/> Intensively managed pasture or range <i>Grassland that is commonly fertilized, mowed, and/or treated with herbicide resulting in low forb richness. Grasses often introduced.</i>	Poor		Good or Excellent	
<input type="checkbox"/> Brush <i>Brush is noxious or problematic and at a density such that monarch habitat is mostly absent.</i>	Poor		Good or Excellent	
<input type="checkbox"/> Other Herbaceous Communities <i>Passively managed pasture or range, Ungrazed grassland or Unmanaged hayland</i>	Proceed to STANDARD APPROACH: SAMPLE ASSESSMENT AREA AND DETERMINE BENCHMARK MONARCH HABITAT CONDITION RATING.			

STANDARD APPROACH: DETERMINE MONARCH CONDITION RATINGS FOR OTHER HERBACEOUS COMMUNITIES

Apply this step only if Benchmark Condition could not be assessed with the Rapid Approach (i.e., *OTHER HERBACEOUS COMMUNITIES*)

V^{IR}: Insecticide Risk condition¹	Benchmark Score	Management Alternatives (Unless selected, label AA as <i>OUT</i> on the project map)	Planned Score	Applied Score
AA is treated with insecticides	0	Decision maker will consider and/or implement mitigate measures for on-site and offsite insecticide risks to monarch butterflies through direct contact. NCP 595 is an option.	0	0
AA is at risk of exposure to insecticide by drift.	0.3		0.3	0.3
Neither of the above	1.0	Decision maker will continue with current management practices.	1.0	1.0

- Consider treatment timing and duration in relation to when monarchs are in the region.

Chemical(s): _____ Timing: _____

V^{HR}: Herbicide Risk Condition	Benchmark Score	Management Alternatives	Planned Score	Applied Score
AA is treated with or subject to drift from a broad spectrum herbicides	0.1	Decision maker will consider and/or implement mitigate measures for on-site and offsite herbicide risks to monarch habitat. NCP 595 is an option.	0.1	0.1
AA is treated with or subject to drift from select herbicide that does not affect milkweed.	0.3		0.3	0.3
None of the above	1.0	Decision maker will continue with current management practices.	1.0	1.0

- Do not consider Individual Plant Treatments (IPT) for plants deemed undesirable (e.g., spot treatment of brush, noxious weeds, or invasive species).
- Under the Planned or Applied scores do not consider treatments, such as NCP 314 – Brush Management or 315 - Herbaceous Weed Control, when applied for the purpose of enhancing or establishing milkweed or nectaring habitat.
- This question relates to herbicide applications that occur on a regular cycle (annually, biannually, every 5-10 years). Do not consider treated, if the application of herbicides was part of a past weed control program that has been discontinued (no treatment in recent years, or anticipated in the future).

¹ V is used for the term “variable”. These are variables used to calculate the final score for the assessment area.

STANDARD APPROACH: CONTINUED

Vegetative Survey: Locate three Representative Observation Points (ROP) within each Assessment Area (AA), if size allows, and within each stretch a tape 72.6 foot denoting location of starting point and direction below. Tally milkweed stems rooted within 3 feet of each side of the tape along the entire length (72.6' x 6' belt-transect). Within three 6'x6' quadrates placed at the beginning of the 10, 40 and 60 foot marks on the tape, estimate percent cover and numbers of species of preferred monarch nectaring plants (refer to the monarch plant list and/or identification guide for preferred species).

Direction/location:	ROP 1 : Lat:			ROP 2 : Lat:			ROP 3 : Lat:			Avg.
	Dir: Long:			Dir: Long:			Dir: Long:			
no. milkweed stems:	Belt-transect #1			Belt-transect #2			Belt-transect #3			
cover (%):	Q 10	Q 40	Q 60	Q 10	Q 40	Q 60	Q 10	Q 40	Q 60	
richness (no. spp.)	10	40	60	10	40	60	10	40	60	

V ^{MD} : Average milkweed stem density per acre	Benchmark Score	Management Alternatives	Planned Score	Applied Score
No milkweed were tallied within the belt transects or observed in AA	0.1	Decision maker can plant milkweed with the use of Conservation Practice(s); Conservation Cover (327), Range Planting (550), Riparian Herbaceous Buffer (390) and/or Field Boarder (387).	0.1	0.1
No milkweed stems within transects, but, observed in AA	0.2		0.2	0.2
1 – 4 stem average for AA	0.3	Decision maker can use Conservation Practice(s); Early Successional Habitat Management (647) and/or Prescribed Burning (338) to <u>improve</u> milkweed densities.	0.3	0.3
4.1 – 10 stem average for AA	0.5		0.5	0.5
10.1 – 20 stem average for AA	0.7		Decision maker can use Conservation Practice(s); Early Successional Habitat Management (647) and/or Prescribed Burning (338) to <u>maintain</u> milkweed densities.	0.7
20.1 – 40 stem average for AA	0.8	0.8		0.8
> 40 stem average for AA	1.0	1.0		1.0

STANDARD APPROACH: CONTINUED				
V^{FC}: Average monarch nectaring forb cover within the AA	Benchmark Score	Management Alternatives	Planned Score	Applied Score
< 1 % average cover	0.1	Decision maker can plant appropriate nectar species with the use of Conservation Cover (327) or Range Planting (550).	0.1	0.1
1.0 – 4.0 % average cover	0.2		0.2	0.2
4.1 – 7.5 % average cover	0.6	Decision maker can use Conservation Practice(s); Early Successional Habitat Manage. (647), Prescribed Burning (338) and/or plantings (327, 550) to <u>improve</u> current conditions.	0.6	0.6
7.6 – 10.0 % average cover	0.8	Use Conservation Practice(s); Early Successional Habitat Manage. (647) or Prescribed Burning (338) to <u>maintain</u> or enhance current conditions.	0.8	0.8
> 10 % average cover	1.0		1.0	1.0

V^{FR}: Average number of monarch nectaring forb species per transect	Benchmark Score	Management Alternatives	Planned Score	Applied Score
< 2 average number of forb species	0.1	Decision maker can plant appropriate nectar species with the use of Conservation Cover (327) or Range Planting (550).	0.1	0.1
2 - 4 average number of forb species	0.5	Decision maker may use Conservation Practice(s); Prescribed Burning (338), Early Successional Habitat Manage. (647) and/or plantings to <u>improve</u> current conditions.	0.5	0.5
> 4 average number of forb species	1.0	Use Conservation Practice(s); Early Successional Habitat Manage. (647) or Prescribed Burning (338) to <u>maintain</u> or enhance current conditions.	1.0	1.0

Notes:

STANDARD APPROACH: CONTINUED			
<p>Apply the following formulas to determine Monarch Habitat Condition Scores (benchmark, planned, applied rating) and rate habitat according to the chart. Scores may be improved by applying management alternatives as outlined in the individual Variable scoring tables above. Planned ratings must be “Good” or “Excellent” to meet planning criteria.</p>		<p>Habitat Condition Ratings</p> <p>0.00 – 0.25 = <i>Poor</i></p> <p>0.26 – 0.49 = <i>Fair</i></p> <p>0.50 – 0.74 = <i>Good</i></p> <p>0.75 – 1.00 = <i>Excellent</i></p>	
Monarch Breeding Habitat Condition Score			
Formula	Benchmark Rating	Planned Rating	Applied Rating
$(V^{IR}) \frac{V^{HR} + 3V^{MD}}{4}$	$(_) \frac{_ + 3(_)}{4} =$ <p>Rating = _____</p>	$(_) \frac{_ + 3(_)}{4} =$ <p>Rating = _____</p>	$(_) \frac{_ + 3(_)}{4} =$ <p>Rating = _____</p>
Monarch Nectaring Habitat Condition Score			
Formula	Benchmark Rating	Planned Rating	Applied Rating
$\frac{2V^{IR} + V^{HR} + 3V^{FC} + V^{FR}}{7}$	$\frac{2(_) + _ + 3(_) + _}{7} =$ <p>Rating = _____</p>	$\frac{2(_) + _ + 3(_) + _}{7} =$ <p>Rating = _____</p>	$\frac{2(_) + _ + 3(_) + _}{7} =$ <p>Rating = _____</p>
Cumulative Monarch Habitat Condition Score			
Formula	Benchmark Rating	Planned Rating	Applied Rating
$\frac{\text{Breeding Score} + \text{Nectaring Score}}{2}$	$\frac{_ + _}{2} =$ <p>Rating = _____</p>	$\frac{_ + _}{2} =$ <p>Rating = _____</p>	$\frac{_ + _}{2} =$ <p>Rating = _____</p>

Factor(s)	<p>Conservation Practices for Resource Concerns <i>Habitat score of 0.5 or less, consider the following conservation practices</i></p> <p>The following practices have been reviewed and approved by the NRCS Monarch Butterfly Habitat Development Project Working Group.</p>
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	<p><u>CORE NATIONAL CONSERVATION PRACTICES</u></p> <p>314 – Brush management - The management or removal of woody (non-herbaceous or succulent) plants including those that are invasive and noxious.</p> <p>327 – Conservation Cover - Establishing and maintaining permanent vegetative cover.</p> <p>338 – Prescribed Burning - Controlled fire applied to a predetermined area.</p> <p>386 – Field Border - A strip of permanent vegetation established at the edge or around the perimeter of a field.</p> <p>390 – Riparian Herbaceous Cover – Restore, improve or maintain desired plant community within the transition zone between upland and aquatic habitats</p> <p>511 – Forage Harvest Management – The timely cutting and removal of forages to maintain and/or improve wildlife habitat and desired plant communities.</p> <p>528 – Prescribed Grazing – Apply grazing to meet a vegetative objective.</p> <p>550 – Range Planting - Establishing and maintaining permanent vegetative cover to support grazing and wildlife.</p> <p>645 – Upland Wildlife Habitat Management - Provide and manage upland habitats and connectivity within the landscape for wildlife.</p> <p>647 – Early Successional Habitat Management/Development - Manage plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.</p> <p><u>SUPPORTING NATIONAL CONSERVATION PRACTICES</u></p> <p>315 -- Herbaceous Weed Control - The removal or control of herbaceous weeds including invasive, noxious and prohibited plants.</p> <p>378 – Pond - Provide livestock a source of water to facilitate Prescribed Grazing.</p> <p>382 – Fence – To provide a means to control of animals and people.</p> <p>394 – Fire Break – Permanent or temporary strip of vegetation to reduce the spread of wildfire and contain prescribed burns.</p> <p>516 – Livestock Pipeline - Provide livestock a source of water to facilitate Prescribed Grazing.</p> <p>533 – Pumping Plant - Provide livestock a source of water to facilitate Prescribed Grazing.</p> <p>561 – Heavy Use Area Protection – Provide stable, non-eroding surface to protect water source for livestock to facilitate Prescribed Grazing.</p> <p>595 – Integrated Pest Management - Prevent or mitigate off-site pesticide risks to soil, water, air, plants, animals and humans from drift and volatilization losses.</p> <p>614 – Watering Facility – Provide livestock a source of water to facilitate Prescribed Grazing.</p> <p>642 – Water Well – Provide livestock a source of water to facilitate Prescribed Grazing.</p> <p>644 -- Wetland Wildlife Habitat Management -Retaining, developing or managing wetland habitat for wetland wildlife.</p>
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