Natural Heritage Ranking Form - Oregon State Rank

Oregon Ranking Form Mardon skipper (butterfly) (Polites mardon) **Oregon Biodiversity Information Center**

SPECIES ASSESSED

Scientific Name ***Polites mardon*** **ELCODE** IILEP66030

Common Name **Mardon skipper (butterfly)** **Element ID** 7364

Species Concept Reference Citation

Pelham, J. P. 2008. A catalogue of the butterflies of the United States and Canada with a complete bibliography of the descriptive and systematic literature. The Journal of Research on the Lepidoptera. Volume 40. 658 pp. Revised 14 February, 2012.

CONSERVATION STATUS RANK

Assigned Rank **S2?**

Rank Assignment Author	Eleanor Gaines	**Rank Review Date**	12/19/1995
Rank Factors Author	Eleanor Gaines	**Rank Factors Date**	11/09/2022
Calculated Rank	S2?	**Rank Change Date**	11/09/2022
Rank Methodology Used	Rank calculation - Biotics v2		

Assigned Rank Reasons

Many sites are on public lands with some level of habitat protection, but most sites are subject to grazing, timber harvest, and recreational use (USFWS 2010, Kerwin 2011). Population size is unkown for Oregon, and trend data are uncertain.

RANGE/DISTRIBUTION

Range Extent

Rating 1000-5000 square km (about 400-2000 square miles)

Estimate 3432 **Unit Used for Estimate**

Comments In Oregon, Mardon skippers occur in the southern Cascades and along the far southern Oregon Coast (Kerwin 2011, Hatfield et al. 2018). They have limited dispersal capability (believed to be less than 0.8 km), and movement between these regions is unlikely (Kerwin 2011). In Oregon they are known from Curry, Jackson, and Klamath Counties (NatureServe Network 2022). Miller and Hammond (2007) suggest this species historically occurred in western Oregon's Willamette Valley, but supporting records do not exist.

Area of Occupancy

Grid Cell Size 4 km² Grid Cells

Rating (as Number of 4 km2 Grid Cells) E = 26-125

Comments Based on current Oregon records.

ABUNDANCE AND CONDITION

Number of Occurrences

Rating 6 - 80

Estimate 20

Comments

There are 20 known records from Oregon, 17 of these are post-2000.

Population Size

Rating Unknown

Good Viability/Ecological Integrity

Number of Occurrences with Good Viability/Ecological Integrity

Rating Very few to few (1-12)

Number of Protected and Managed Occurrences BC = Few to several (1-12) occurrences appropriately protected and r

Number of Protected and Managed Occurrences Comments

Many sites are on public lands with some level of habitat protection, but most sites are subject to grazing, timber harvest, and recreational use (USFWS 2010, Kerwin 2011).

THREATS

Threat Category Code	Threat Category	Calculated Impact	Scope	Severity	Timing	Comments
2	Agriculture & aquaculture	D = Low	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Moderate - slight		
2.3	Livestock farming & ranching	D = Low	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Moderate - slight		
2.3.2	Small-holder grazing, ranching or farming	D = Low	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Moderate - slight		
4	Transportation & service corridors	D = Low	Small: Affects a small propotion (1-10%) of the total population or occurrences or extent	Slight: Likely to only slightly degrade/reduce affected occurrences or habitat, or reduce population 1-10%		
4.1	Roads & railroads	D = Low	Small: Affects a small propotion (1-10%) of the total population or occurrences or extent	Slight: Likely to only slightly degrade/reduce affected occurrences or habitat, or reduce population 1-10%		
5	Biological resource use	D = Low	Small: Affects a small propotion (1-10%) of the total population or occurrences or extent	Slight: Likely to only slightly degrade/reduce affected occurrences or habitat, or reduce population 1-10%		
5.1	Hunting & collecting terrestrial animals	D = Low	Small: Affects a small propotion (1-10%) of the total population or occurrences or extent	Slight: Likely to only slightly degrade/reduce affected occurrences or habitat, or reduce population 1-10%		
6	Human intrusions & disturbance	BC = High - medium	Large: Affects most (31-70%) of the total population or occurrences or extent	Serious - moderate		
6.1	Recreational activities	BC = High - medium	Large: Affects most (31-70%) of the total population or occurrences or extent	Serious - moderate		
7	Natural system modifications	BC = High - medium	Pervasive - large	Serious - moderate		
7.1	Fire & fire suppression	BC = High - medium	Pervasive - large	Serious - moderate		

8	Invasive & other problematic species, genes & diseases	BC = High - medium	Large: Affects most (31-70%) of the total population or occurrences or extent	Serious - moderate
8.1	Invasive non-native/alien species/diseases	BC = High - medium	Large: Affects most (31-70%) of the total population or occurrences or extent	Serious - moderate
8.2	Problematic native species/diseases	BC = High - medium	Large: Affects most (31-70%) of the total population or occurrences or extent	Serious - moderate
9	Pollution	BD = High - low	Large - restricted	Serious - moderate
9.5	Air-borne pollutants	BD = High - low	Large - restricted	Serious - moderate
11	Climate change & severe weather	BC = High - medium	Pervasive: Affects all or most (71-100%) of the total population or occurrences or extent	Serious - moderate

Calculated Overall Threat Impact AB = Very high - high

Assigned Overall Threat Impact AB = Very high - high

Overall Threat Impact Comments

Threats vary across this species' range. Most populations are small and fragmented. The primary threats to Mardon skipper include habitat degradation due to woody encroachment on grassland/meadow habitat, development, invasive species, and changing fire regimes (USFWS 2010, Kerwin 2011, St. Hilaire 2014, Hatfield et al. 2018). Grazing is a threat at some sites, but can be managed to help maintain low grassland habitat (St. Hilaire 2014, 2018). Other threats include habitat disturbance from recreation, road development and maintenance, and pesticide use (Kerwin 2011).

•Grazing can result in trampling of eggs, larvae, and pupae. Grazing can also alter plant community composition by removing adult nectar resources and introducing invasive weeds (Kerwin 2011, St. Hilaire 2014). However, carefully timed grazing can maintain short grassland habitats preferred by Mardon skipper by discouraging woody encroachment and development of thatch layers (St. Hilaire 2014).
•Road development and maintenance, including mowing and spraying of insecticides, may render habitat unsuitable for Mardon skipper, limit dispersal opportunities, and further fragment populations (Kerwin 2011).
•Collecting or extensive research activities may damage habitat or harm eggs, larvae and pupae, leading to increased vulnerability at sites with small populations (Kerwin 2011).
•Off-road vehicle use is an ongoing and persistent threat in some occupied Mardon skipper sites (Kerwin 2011). Off-road vehicle use can result in direct mortality at all life stages and can also destroy habitat and plants. Off-road vehicle use may also introduce non-native weeds, further degrading habitat (Kerwin 2011, St. Hilaire 2018). Dispersed camping may damage meadow habitats (St. Hilaire 2018).
•Increasing wildfire frequency and intensity may harm and fragment existing populations. Simultaneously, fire suppression has led to degradation of meadow habitats and woodland succession (Schultz et al. 2011). Small, patchy prescribed fires can maintain grassland and meadow habitats (Kerwin 2011).
•Non-native invasive plants can out-compete native vegetation, and change the vegetative structural characteristics of grasslands, rendering them unsuitable for Mardon skipper use (Kerwin 2011, Schultz et al. 2011). Additionally, woody species encroachment renders habitat unsuitable.
•Pesticide drift, including Btk (Bacillus thuringiensis var. kurstaki) and other insecticides, from nearby agricultural or forest lands may negatively affect Polites mardon.
•Climate projections for the Pacific Northwest include hotter and drier summers and increased fire frequency and intensity, potentially reducing suitable Mardon skipper habitat (Kerwin 2011). Drought will impact grassland habitat.

TRENDS

Short-Term Trend

Rating G = Relatively Stable (<=10% change)

Comments

Between 2014 and 2018, population estimates showed a non-significant decline (Hatfield et al. 2018). Population estimates were higher in 2019 and 2020, but confidence intervals were wide (Fallon et al. 2019, Blackburn et al. 2020).

Long-Term Trend

Rating U = Unknown

Comments

Long-term trends are largely unknown because historical Mardon skipper ranges are not known and most surveys have occurred since 2000 (Black et al. 2013).

ADDITIONAL SPECIES INFORMATION

Oregon Habitat Comments

The Mardon Skipper is dependent upon native fescue-dominated grasslands in Washington, Oregon, and California (Black and Vaughan, 2005).

RESOURCES

Oregon Biodiversity Information Center, Institute for Natural Resources
Portland State University, Mail Stop: INR, PO Box 751, Portland, OR 97207-0751 Phone: 503-725-9950

Additional ORBIC species ranking forms posted at
https://inr.oregonstate.edu/orbic/rare-species/ranking-documentation

Information on Natural Heritage ranking methodology is available at
http://www.natureserve.org/biodiversity-science/publications/natureserve-conservation-status-assessments-methodology-assign

The Conservation Rank Calculator is developed and maintained by NatureServe and is available from
http://www.natureserve.org/conservation-tools/conservation-rank-calculator

ASSESSMENT CITATION

Oregon Biodiversity Information Center. 1995. Oregon state rank assessment for Mardon skipper (butterfly) (Polites mardon). Institute for Natural Resources, Portland State University, Portland, OR.