

Periodic Status Review of Mardon Skippers in Washington



Julie K. Combs, Pollinator Species Lead
Taylor Cotten, Conservation Section Assessment Manager
Wildlife Diversity Division
Washington Department of Fish and Wildlife



Draft Periodic Status Review: Process & Timeline

Listing Process Guided by WAC 220-610-110

- First Mardon Skipper Periodic Status Review
- March 2023: 90-day public comment period on Draft
- July 2023: Review comments and make any final changes to the Draft Periodic Status Review
- October 2023: PSR finalized and published on the website
- Listing "...solely on the basis of the biological status of the species being considered, based on the preponderance of scientific data available."
- Endangered species is "... seriously threatened with extinction throughout all or a significant portion of its range within the state"



Washington State Status Report for the Mardon Skipper



STATE OF WASHINGTON

October 2023

Periodic Status Review for the Mardon Skipper



Julie K. Combs, Derek D. W. Stinson
and Ann Potter
Washington Department of
FISH AND WILDLIFE
Wildlife Program

Listing of Mardon Skipper

State:

- Endangered Species and protected by state law (RCW 77.12.020, RCW 77.15.130) since 1998
- Estimates of hundred individuals from 9 occupied sites (3 Puget Sound, 6 Southern Cascades)

Federal:

- Candidate for listing 1999-2012
- 2012 USFWS determines listing is **not warranted** based on documentation of new information from intensive survey efforts



Washington State Status Report for the Mardon Skipper



STATE OF WASHINGTON

October 2023

Periodic Status Review for the Mardon Skipper



Listing of Mardon Skipper

State:

- Endangered Species and protected by state law (RCW 77.12.020, RCW 77.15.130) since 1998
- Estimates of hundred individuals from 9 occupied sites (3 Puget Sound, 6 Southern Cascades)

Federal:

- Candidate for listing 1999-2012
- 2012 USFWS determines listing is **not warranted** based on documentation of new information from intensive survey efforts



Regulatory Status Recommendation and Protection:

- We recommended that the species remain state-listed as endangered because of the precipitous decline of the South Sound populations
- Currently recognized as a USFS Region 6 Sensitive Species and a BLM Special Status Species
- USFS/BLM's ISSSSP (Interagency Special Status/Sensitive Species Program) facilitates conservation and management of mardon skipper on BLM and USFS managed land

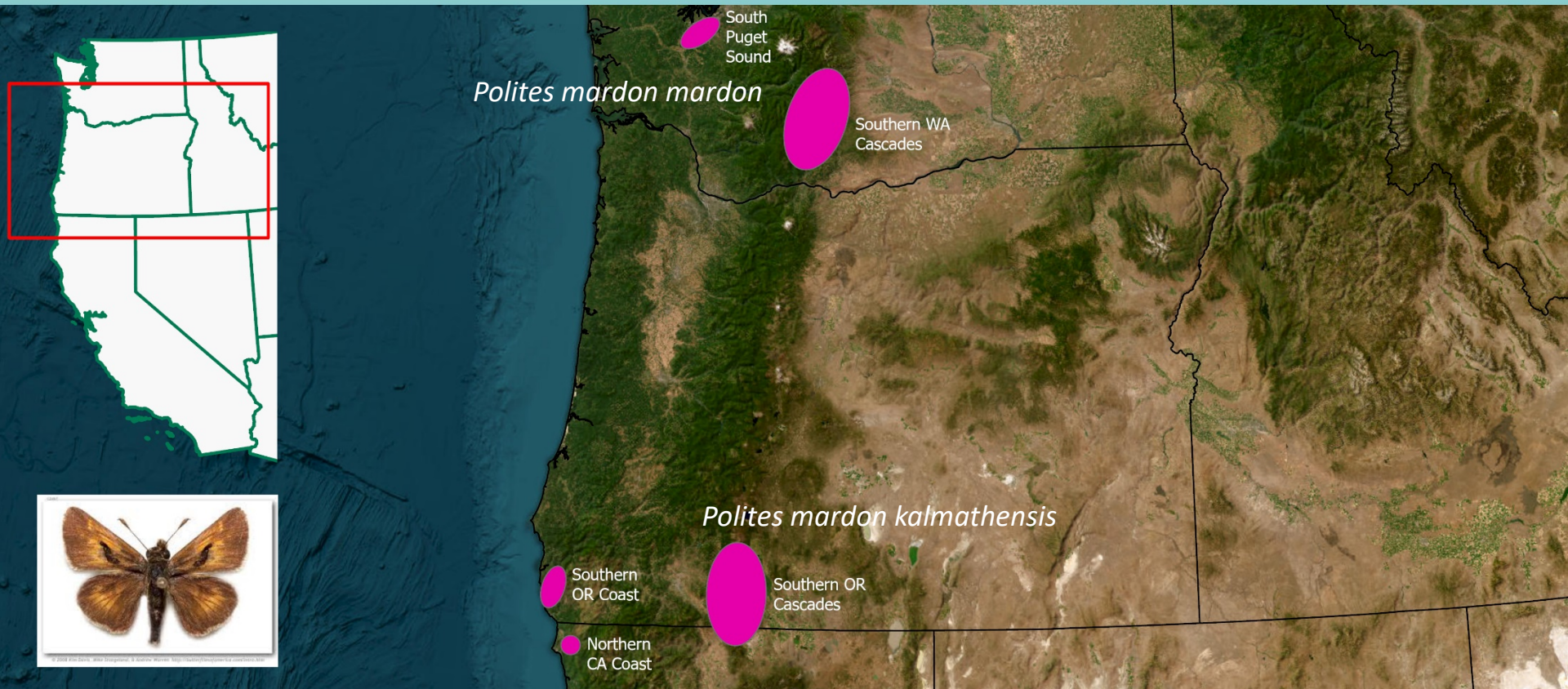


Photo: Julie Combs



Photo: Rod Gilbert



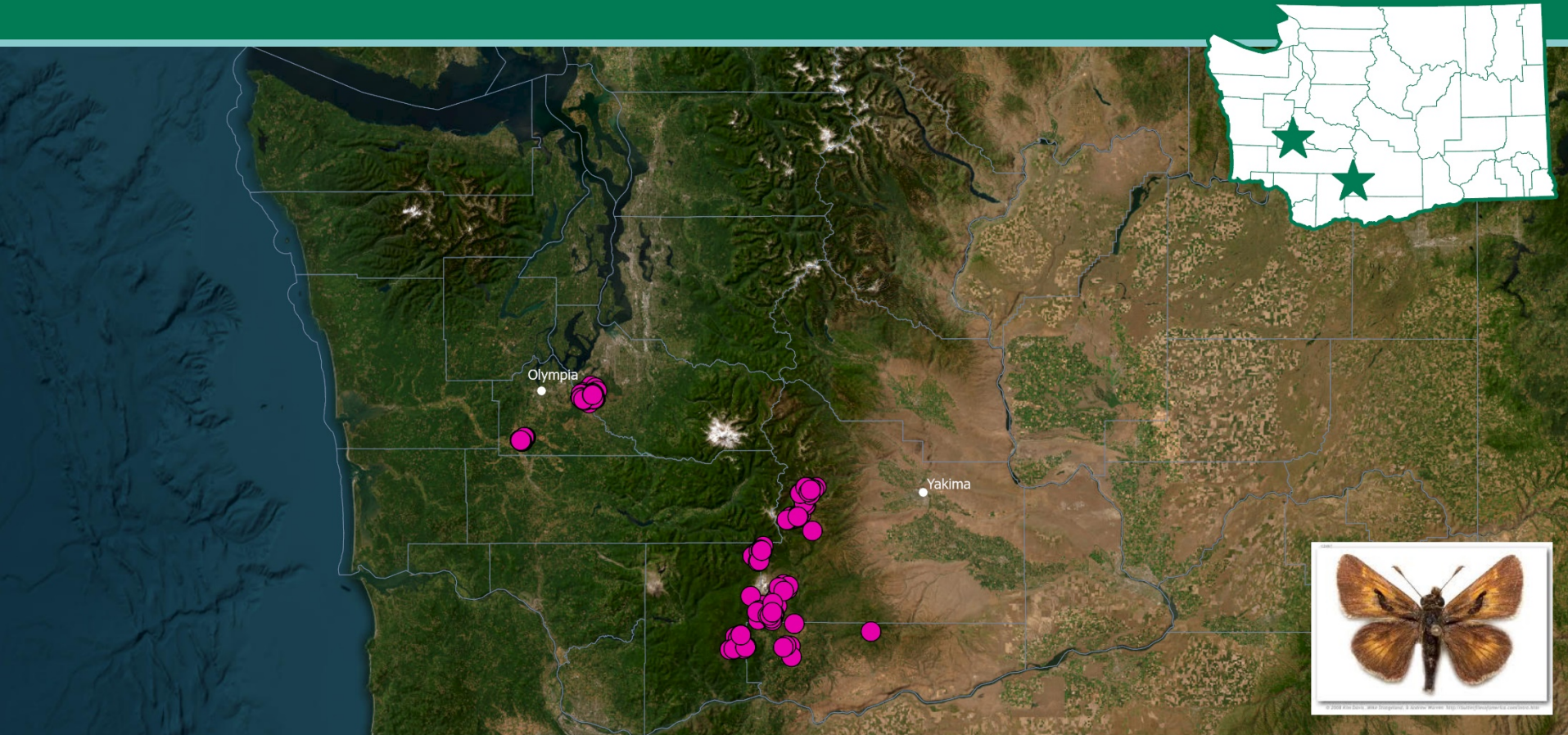


Department of Fish and Wildlife



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

- Found in 5 disjunct regions across WA, OR and CA
- 2 subspecies and 2 undescribed segregates in coastal CA and OR

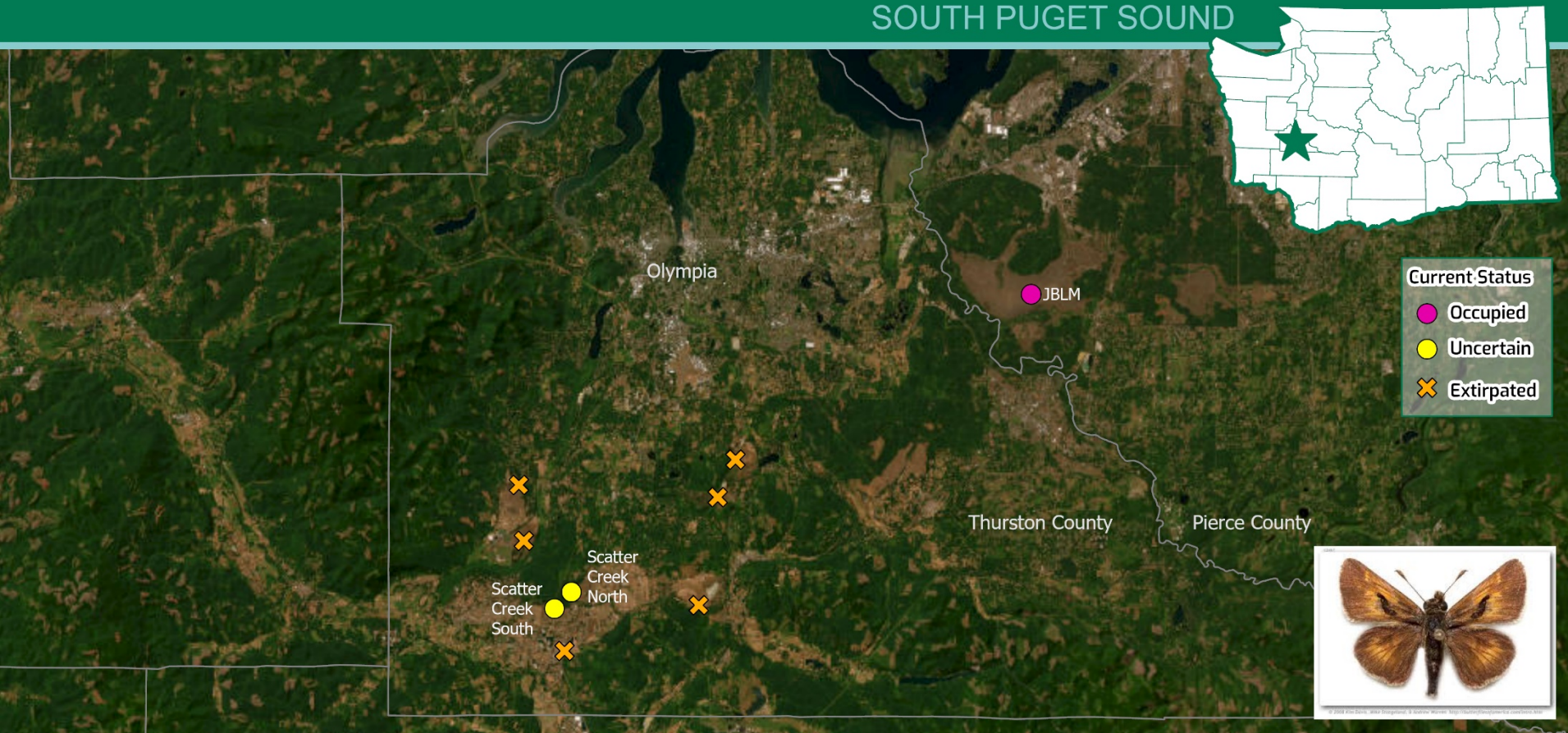


Department of Fish and Wildlife



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

- 2000-2011 Survey effort in WA documented 117 sites and 49 populations in South Puget Sound and Southern WA Cascades



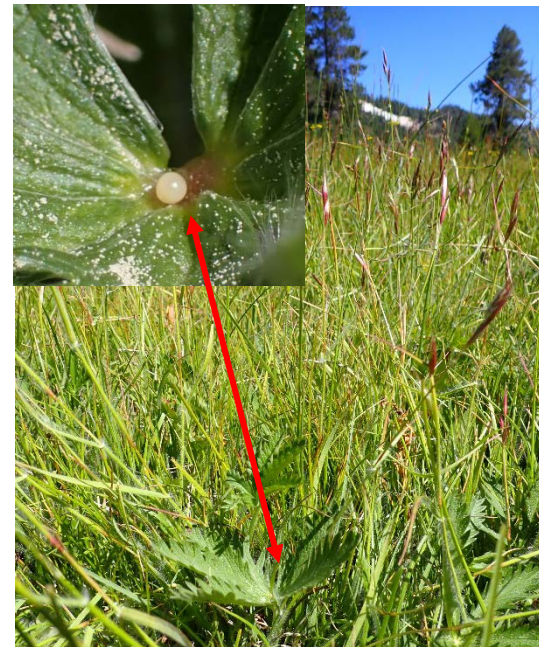
- 1 extant population on Joint Base Lewis-McChord (JBLM) Artillery Impact Area (AIA)
- 2 uncertain populations at South Scatter Creek Wildlife Area
- 7 extirpated populations

Natural History (Subfamily Hesperinae)

- Small (<1”), compact body, brownish-orange, short round wings, fast flyer
- Adult flight period from late May-June in Puget Sound prairies; June-July in montane meadows
- Adults live about 5-14 days; Dispersal distance limited (0.5-0.8km; Potter and Fleckenstein 2001); males documented to fly up to 1.6km (Runquist 2004)
- 23 Host plant identified (8 sedges; *Carex* spp., 15 grasses: *Fescue* spp., *Poa* spp. and *Danthonia* spp.)
- Females drop eggs singly, hatch 5-7 days
- Larvae feed until late fall, overwinter as larvae in silken chamber at base of grass/sedge and merge following spring to feed before pupating (Henry and Beyer 2013)



Mardons mating on slender cinquefoil
Photo: Julie Combs



Mardon egg on leaf base (inset) of slender cinquefoil near host plant, one-spike oat grass.
Photo: Julie Combs



Natural History (Habitat South Puget Sound)

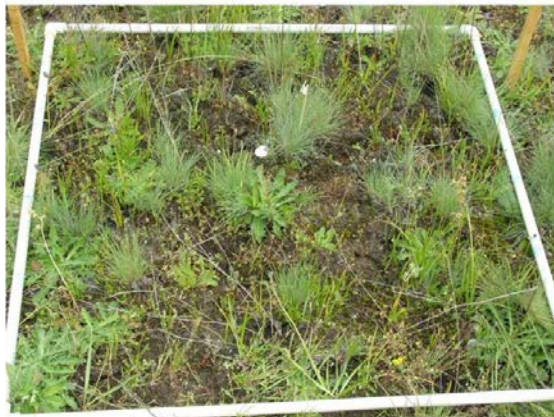
- Habitat, oviposition microhabitat, and nectar plants



Mortar Point 13



Scatter Creek



Roemer's fescue bunch grass and oviposition sites/habitat. From Beyer 2012



Common camas (*Camassia quamash*) and Common vetch (*Vicia sativa*) Photo: Alison Hart



Early blue violet (*Viola adunca*)



Puget balsamroot (*Balsamorhiza deltoidei*) and mardon skipper. Photo: Rod Gilbert



Natural History (Habitat Southern Cascades)

- Habitat (mesic/xeric meadows, riparian areas and clear-cuts), oviposition microhabitat, and nectar plants



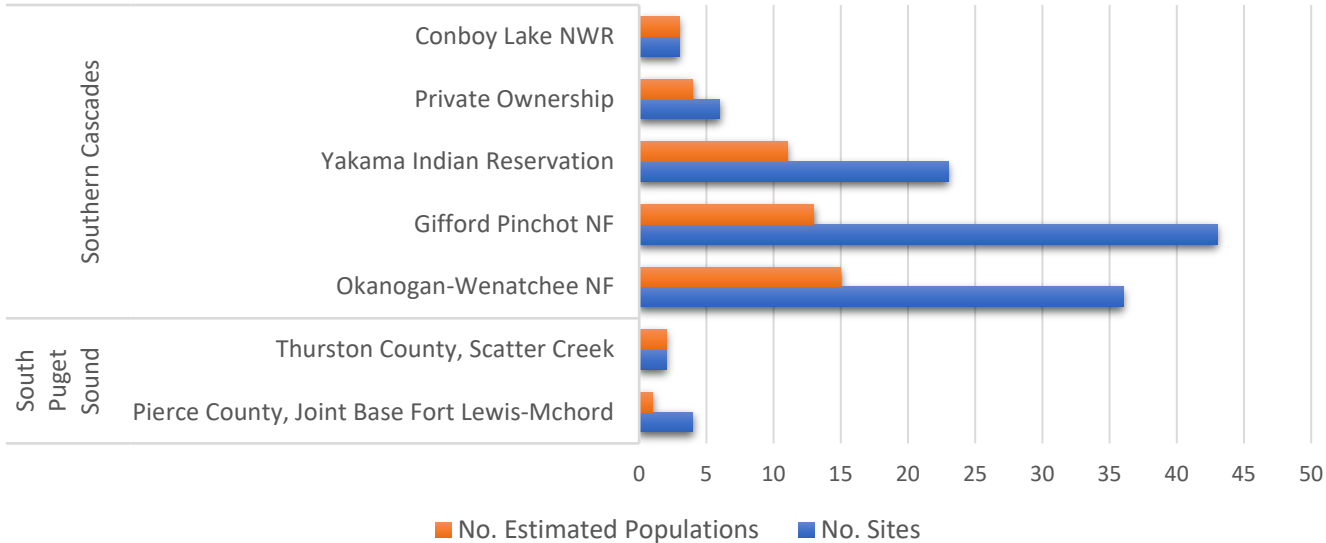
- Okanogan-Wenatchee National Forest, Conrad Meadow Inset: Dominate host plant, one-spike oatgrass (*Danthonia unispicata*) and mardons mating on slender cinquefoil (*Potentilla gracilis*). Photos: J. Combs

- Xeric meadow, Bakeoven Flats 1 in the “core use area” is the lowest elevation meadow in the Okanogan-Wenatchee NF (3,330 ft.) Inset, host plants fescue (*Fescue* sp.) and sedges (*Carex* sp.) Photos: Sarina Jepsen



Population Status:

Estimated No. of Sites and Populations Mardon Skipper



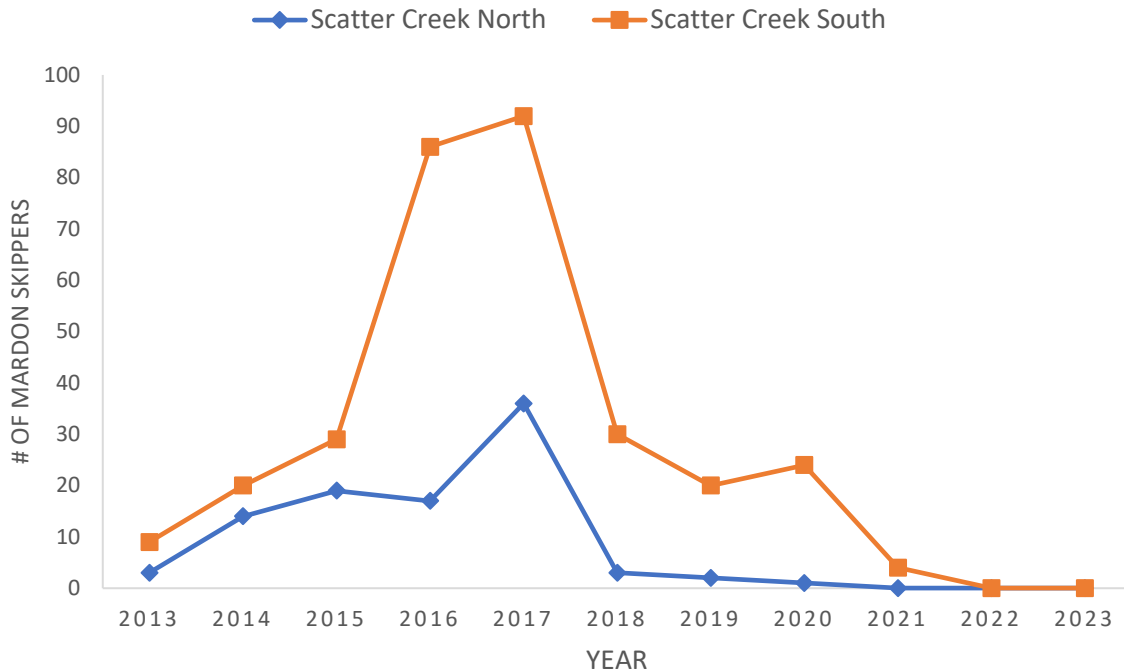
“Sites” refers to the specific locations with documented species presence (some of which are single observations) and “populations” represent local clusters of sites that are assumed to function as a local population (Data from 2012 USFWS 12 month finding).

- Status of occupied sites and populations likely similar today but gaps occur because intensive monitoring has not been conducted since 2011
- Many occupied sites are small and fragmented
- Scatter Creek sites and populations are likely extirpated



Population Trend/Status: South Puget Sound

TOTAL SEASONAL COUNTS OF MARDON SKIPPERS
SCATTER CREEK WILDLIFE AREA 2013-2023



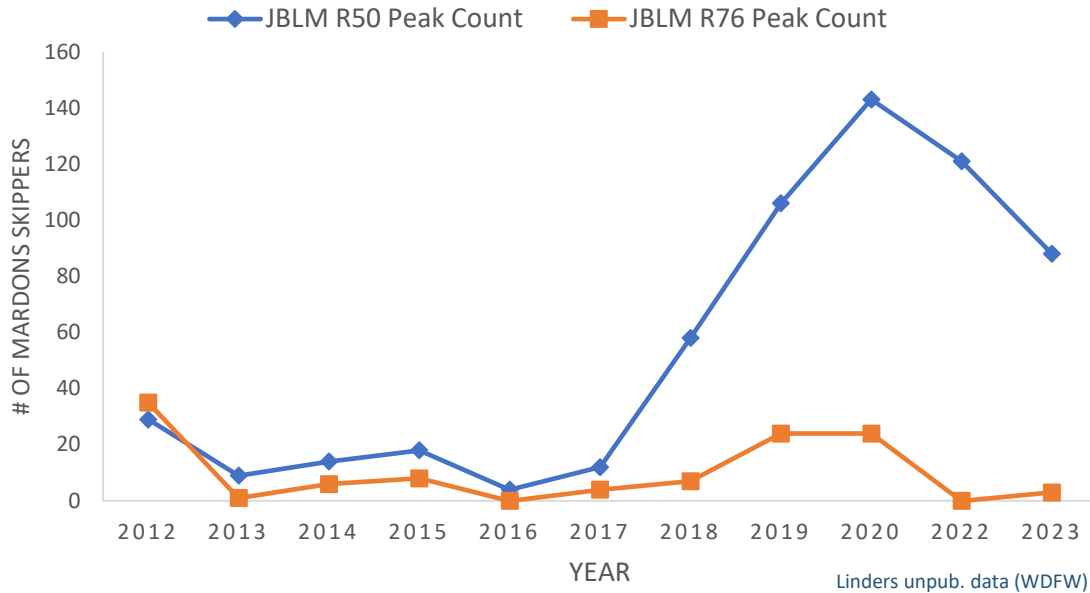
WDFW Wildlife Biologist conduct surveys for mardon skipper at Scatter Creek WLA Photo: Taylor Cotten

- Scatter Creek WLA populations likely extirpated



Population Trend/Status: South Puget Sound

PEAK COUNTS OF MARDON SKIPPER AT JBLM
2012-2023



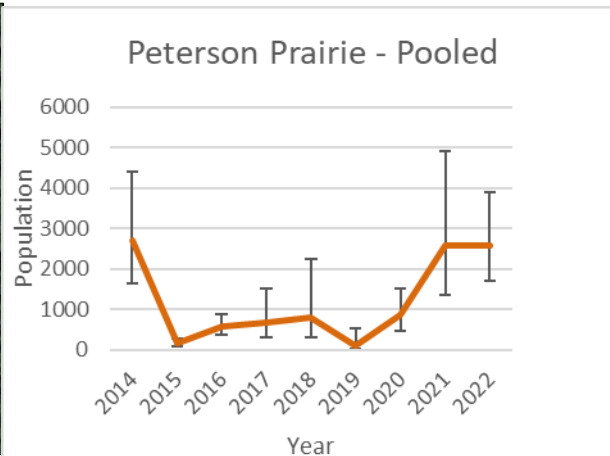
- 1 population on Joint Base Lewis-McChord (JBLM) Artillery Impact Area (AIA) that supports approximately four sites (subpopulations) across 7,000 acres



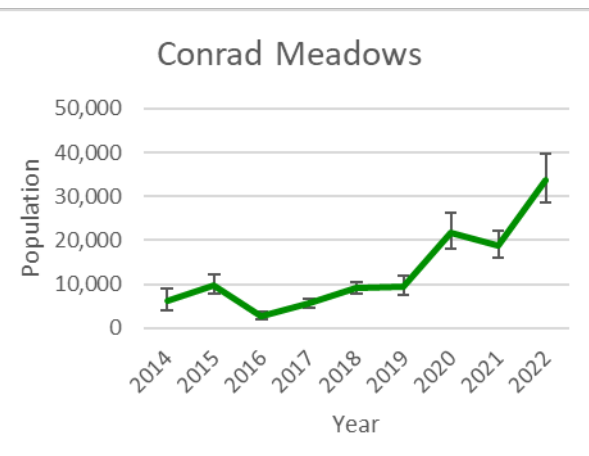
Population Trend/Status: Southern Cascades



6 acres/3,000 ft.; Fallon et al. 2019



(Blackburn et al. 2022)



9 acres/ 4,100 ft.; Fallon et. al 2019

- Peterson Prairie (Gifford Pinchot NF) estimated at 2,500
- Conrad Meadow (Okanogan-Wenatchee NF) estimated at 33,000 individuals
- 9-year trend shows stable-increase at two largest sites
- Most sites are small (<0.5 ac.) and fragmented with few individuals (3-35 individuals)



Primary Factors affecting Mardon Skipper:

- Habitat loss, degradation and land use changes (e.g., over 90% loss of prairie habitat in western, WA (Hall et al. 1995))
- Wildfire and prescribed fire
- Introduced species changing habitat composition and structure
- Climate change (e.g., cold-wet springs, summer droughts) intensify threats



Range 50 JBLM wildfire due to military training activities, July 2023.
Photo: Andy Dechaine



Scotch Broom (*Cytisus scoparius*) invasion of native prairie habitat at Scatter Creek WLA, May 3, 2023. Photo: Julie Combs



Secondary Factors affecting Mardons:

- Meadow loss due to forest encroachment via fire suppression (Foster 2010)
- Meadow damage by off road vehicles (ORV's), dispersed camping
- Intensive livestock grazing practices



Conifer encroachment at Bakeoven Flats 1, Okanogan-Wenatchee National Forest. Photo: Sarina Jepsen



Midway Meadow, Gifford Pinchot NF, WA. Photo: Tom Kogut



Cattle in Conrad Finger 2 Site. Photo: Sarina Jepsen, 2007



Management Activities:

- Habitat protection and restoration
 - Removal and control of invasive species
 - Seeding and planting of nectar resources and host plants
 - Control encroaching conifers
 - Temporary fencing to deter grazing impacts
 - Barriers to prohibit ORV damage to meadows



Photo: Sarina Jepsen (Xerces Society)

Photos: Tom Kogut, GP Wildlife Biologist

Management Activities

- Monitoring

- Competitive State Wildlife Grant in 2023-2025 focus on restoration and monitoring of mardon skipper and other imperiled butterflies
- Collaborative monitoring efforts across federal, state and non-profits (USFS, JBLM, BLM, WDFW, Xerces Society, Ecostudies Institute etc.)

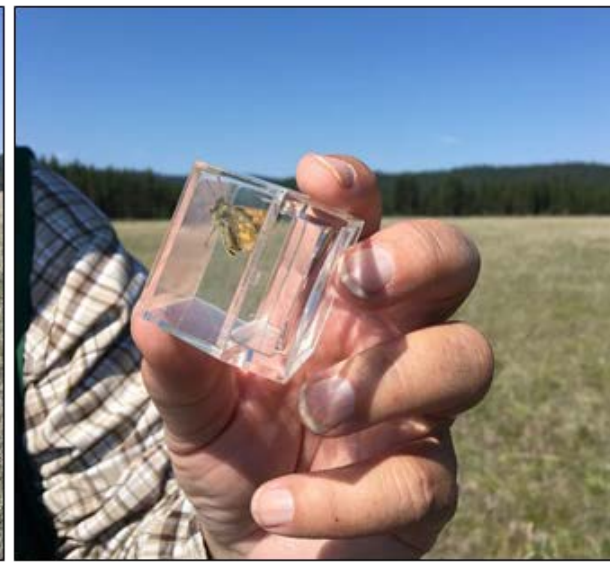


Scatter Creek WDFW and Ecostudies Institute plan the 2023-2025 Competitive State Wildlife Grant plan for mardon skipper habitat restoration and monitoring.

Photo: Julie Combs May 3, 2023



Distance sampling at Howard Prairie. Photos: Kelli Van Norman, 2021.



Management Activities:

- Mardon Skipper Working Group – Annual report out and planning across WA, OR and CA
- 2023 Participants:

Forest Service/ Bureau of Land Management

Rob Huff, R6 FS/OR-WA BLM ISSSSP

Forest Service

Okanogan-Wenatchee NF

Lance Koch-Naches RD

Gifford Pinchot NF

John Jakubowski-Cowlitz Valley RD

Neil Chartier-Trout Lake RD

Conner England-Gifford Pinchot NF

Rogue Rover-Siskiyou NF

Katrina Krause -Gold Beach RD

Sheila Colyer-High Cascades RD

Six Rivers NF

Valerie Williams-Forest Wildlife Biologist

Matt Georgeff- Gasquet Ranger District

US Fish and Wildlife Service

Washington Fish and Wildlife Office

Vince Harke-Lacey

Rebecca Migala-Portland (remote)

Oregon Fish and Wildlife Office

Samantha Derrenbacher-Newport FO

Conboy Lake National Wildlife Refuge

Robyn Reeder

Bureau of Land Management

Medford BLM

Steve Godwin- Ashland RA

Melanie Willard- Ashland RA

Charlie Schelz-Cascade-Siskiyou

National Monument

Robin Snider, Medford BLM Wildlife

Program Lead

Coos Bay BLM

Kip Wright-Myrtlewood FO

National Park Service

Keith Bensen- Redwood National and State Parks

Washington Department of Fish and Wildlife

Julie Combs-Species Lead,

Olympia

Erin Wampole-Ellensburg

Oregon Biodiversity Information Center

Eleanor Gaines

Oregon Parks and Recreation Department

Noel Bacheller

California Fish and Game

Hillary Sardinias

Xerces Society for Invertebrate Conservation

Michele Blackburn

Rich Hatfield

University of Nevada-Reno

Matt Forister

Cas Carroll



Research:

- Genetic study to clarify subspecies level taxonomy among 5 disjunct (part of the Competitive State Wildlife Grant)
- Results will inform future recovery plans
- Understand long-term effects of prescribed burns and wildfires



Photos: Julie Combs



Photo: Mollie Steele (May 3, 2023)



Summary

- 9-year trend of Cascades populations (Peterson Prairie and Conrad Meadows) appear to be relatively stable but most sites are small and fragmented
- Mardon skipper numbers have declined severely in the Puget Sound is likely limited to one population
- Managements needs: habitat restoration, monitoring of historic sites to determine status and management plans that incorporates climate change impacts (e.g., summer droughts, wildfire frequency)

Recommendation:

It is recommended that the species remain state-listed as endangered



Public comments

- 4 Public Comments on the 90-Day Periodic Status Review (PSR)
 - All 4 strongly support recommendation to maintain the current listing of Mardon Skipper as a WA Endangered Species

- WDAC (Wildlife Diversity Advisory Council) supports the recommendation in the draft 90-Day PSR



Photo: Elizabeth Hooper



Acknowledgements

- The many agencies and organizations who have worked directly supporting research, management and conservation of mardon skipper
- Individuals who reviewed the PSR and/or contributed to personal communication regarding the ecology, management and natural history of mardon skipper
 - Jefferey Bernatowicz, Erica Henry, Derek Stinson, Chris Sato, Mary Linders, Eric Holman, Brad Gill, and Stephanie Bergh, Sarah Krock (WDFW)
 - Kelli Van Norman and Rob Huff (BLM/ISSSP Interagency Special Status/Sensitive Species Program)
 - Glen Kohler (Forest Entomologist, DNR)
 - Vince Harke (USFWS)
 - Candace Fallon (Xerces Society)
 - Joan St. Hilaire (Retired USFS); John Jakubowski (Wildlife Biologist USFS)
 - Rod Gilbert (Wildlife Biologist JBLM)
 - Jonathan Pelham (UW Burke Museum)
- Special thanks to Ann Potter and Mary Linders who led WDFW's foundational biological work on mardon skipper



Photos: Julie Combs



Periodic Status Review of Mardon Skippers in Washington



QUESTIONS?

