SURNAME		
TITLE	NAME	DATE
AUTHOR		8/7/2019
F/O DEPUTY PROJECT LEADER		8-7-19
F/O PROJECT LEADER		8/7/2019

5- Year Review Short Form

Species Reviewed: Shrubby reed-mustard (*Schoencrambe suffrutescense* also known as *Hesperidanthus suffrutescens*)

Federal Register Notice Announcing Initiation of this Review: May 27, 2016. Endangered and threatened wildlife and plants; 5-year status reviews of 21 species in the Mountain Prairie Region (81 FR 33698).

Lead Region: Region 6, Marjorie Nelson, Chief, Division of Ecological Services, 303–236–4258.

Current Classification: Endangered

Current Recovery Priority Number: 5C

This recovery priority number is indicative of a species that faces a high degree of threat, has a low recovery potential, is listed at the species level, and has the potential for conflicts between needed recovery actions and economic activities.

Methodology used to complete this review:

This review was completed by the Utah Ecological Services Field Office on July 26, 2019. All pertinent literature and documents on file at the Utah Ecological Services Office were used for this review, with specific emphasis on new information obtained since 2010.

Review Summary:

Shrubby reed-mustard is a perennial plant in the mustard family (*Brassicaceae*). The species is endemic to the Uinta Basin region in northeastern Utah, and found exclusively within the Lower Green-Desolation Canyon and Willow Creek watersheds (NatureServe 2019). We originally listed the species as endangered throughout its range on October 6, 1987 under the Endangered Species Act of 1973 (Act), as amended (52 FR 37416). The latest species status review was a 5-year review completed in 2010 (USFWS 2010). Since the last 5-year review for shrubby reed-mustard, we received new information regarding the species' taxonomy, abundance, distribution, and reproduction ecology.

The species was first discovered in 1935 by Edward Graham, described by Reed Rollins as *Thelypodium suffrutescens* (Graham 1937), and, in 1938, renamed *Glaucocarpum suffrutescens* (Rollins 1938; 52 FR 37416; October 6, 1987). The species was listed under the latter name (52 FR 37416; October 6, 1987). Since then, its genus was changed to *Schoenocrambe* (57 FR 1398; January 14, 1992), *Glaucocarpum* (Al-Shehbaz 2005), and most recently *Hesperidanthus* (Al-Shehbaz 2010). This last taxonomic change is currently accepted in the Flora of North America and the integrated taxonomic information system (ITIS) (Al-Shehbaz 2010; ITIS 2017).

off road vehicle use, grazing, and small population size as threats to the survival of shrubby reed-mustard (USFWS 1994). Research and monitoring data along with updated development information indicate that oil and gas exploration, drilling, and production, oil shale mining, invasive species, grazing, and small population size are existing or future threats to the species. Building stone removal remains a potential stressor on private land, but the extent is unknown. It is unknown how changing climate will effect shrubby reed-mustard (USFWS 2010).

The 1994 recovery plan identified the following downlisting criteria:

1. Discovery or establishment of a minimum of five separate populations with 2,000 or more individuals per population for each species. These populations must be demonstrated to be at or above minimum viable population levels.
2. Formal land management designations are implemented which would provide long-term protections on undisturbed habitat for the above five populations.

Neither of these downlisting criteria have been met for shrubby reed-mustard.

Recommendations on species status:

After reviewing the best available scientific information and recovery criteria, we conclude that the shrubby reed-mustard should remain as an endangered species. Our review of new information compiled since 2010 does not change our evaluation of the species' status and the threats affecting the species under the factors in 4(a)(1) of the Act from our most recent review (USFWS 2010). The lack of knowledge about long-term population trends, recruitment rates, and continued threats associated with habitat alteration from energy exploration and development, grazing, invasive species, as well as small population size supports our previous evaluation that the shrubby reed-mustard remains in danger of extinction across its entire range, and thus continues to meet the definition of an endangered species under the Act. Therefore, we recommend no change in status to the species at this time. We also recommend changing the scientific name for shrubby reed-mustard in the Federal Register to *Hesperidanthus suffrutescens* to reflect the best available scientific data (Al-Shehbaz 2005, entire, Al-Shehbaz 2010).

Recommended future actions:

We recommend increased surveys of potential suitable habitat on all landowner types to better estimate total number of individuals, delineate populations, identify important connectivity corridors, and allow planning for landscape level protections. Additional research that provides a better understanding of current population demographics, population trends, and impact of threats is also necessary to evaluate the effectiveness of current protections and identify when recovery criteria are met. The designation and management of protected areas that reduce impacts from identified threats remains necessary to facilitate this species' recovery. Additionally, we recommend revising the recovery plan and specifically reevaluating the recovery goals and criteria based on new population numbers, habitat requirements, connectivity analysis, and potential changes in threat type and intensity.

[USFWS] U.S. Fish and Wildlife Service. 1994. Utah reed-mustards: clay reed-mustard (*Schoenocrambe argillacea*), Barneby reed-mustard (*Schoenocrambe barnebyi*), shrubby reed-mustard (*Schoenocrambe suffrutescens*) recovery plan. Denver, CO. i-iv + 22 pp.

[USFWS] U.S. Fish and Wildlife Service. 2010. *Schoenocrambe suffrutescens* (Shrubby Reed-Mustard) 5-year Review: Summary and Evaluation. West Valley City, Utah. 32 pp.